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1963 IN REVIEW

National Forests AND THE COMMUNITY



UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
NORTHERN REGION
FEDERAL BUILDING
MISSOULA, MONTANA

Forest Service Northern Region



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UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
NORTHERN REGION

FEDERAL BUILDING
MISSOULA, MONTANA

"National Forests and Communities" is a brief review of Forest Service activities during 1963 in the Northern Region.

Sale and harvest of National Forest timber reached an all-time high this year. Recreation visits increased to a record 8.3 million and brought increased business to nearby resorts and communities. These are but two of the indicators of the contributions of National Forest timber, water, forage, recreation and wildlife resources to the economic stability of the area. Management of resources on these 27 million acres in 16 National Forests is reflected in many business and industrial payrolls.

The title of this summary indicates Forest Service recognition of the importance of the National Forests and Grasslands in the economy of this five-state area: Montana, eastern Washington, northern Idaho and the western Dakotas. This brief review summarizes Forest Service stewardship.

More intensive management of National Forest resources is essential in the face of our growing population and industrial expansion. These public lands are providing resources for use by the people of local communities and the Nation. As multiple-use management of these resources is intensified, the job becomes more complex and demands new approaches, techniques and equipment.

This summary reviews the work accomplished under Regional Forester, Boyd L. Rasmussen, my predecessor. I succeeded him at the start of 1964.

Your comments, questions and suggestions are always welcome.

Neal M. Rahm

NEAL M. RAHM
Regional Forester



Engineering

Maps. Effective and intensive resource management requires current and accurate maps. Land is the National Forests' basic resource. Forest Rangers, Forest Supervisors and others with resource management responsibilities on these public lands depend on good maps to show accurate locations of the land and features on the land. Forest Service maps are the final product of many man-hours of work, photographic reproduction and printing.

Ranchers, sportsmen, hikers, loggers, prospectors, boaters and many others purchase Forest Service maps at cost. An index of available maps and photography can be secured from the Regional Engineer.

This year the Division of Engineering:

—published one-half-inch scale maps of the Nezperce and Clearwater National Forests.

—prepared material for a new map of the Bitterroot National Forest.

—published recreation map-folders for the Clearwater, Colville and Coeur d'Alene National Forests.

—prepared thirty one-inch-to-the-mile Multiple-Use Ranger District maps.

—prepared 306 township plats for new land status records.

—prepared a hunting-fishing map for the Gravelly Range, Beaverhead National Forest.

—printed approximately 40,000 aerial photographs.

Field Controls & Surveys. Planimetric mapping is now available for 80 per cent of the Northern Region. A two-inch-to-the-mile map is used as a base for most resource inventory data; the planimetric provides the base for one-half-inch-to-the-mile National Forest maps. Planimetric mapping is proceeding on the remaining 20 per cent of the Region. Most of it is in the National Grasslands in North Dakota and South Dakota. Field control was completed for mapping an additional 2,000 square miles.

New office-warehouse building, Red Lodge Ranger District, Custer National Forest.





Garage-shop, Red Lodge Ranger District, Custer National Forest.

Modern topographic maps with relief contours are available for about 40 percent of the area. These are used for detailed resource development planning. Field control for topographic maps was completed this year for 600 square miles; mapping will be initiated on an additional 800 square miles in 1964.

In cooperation with the U.S. Bureau of Land Management and by contracting with licensed local surveyors, property corners are being remonumented. This year more than 1,000 property corners were remonumented; these property corners were not well marked by substantial, publicly-recorded monuments. New corner markings aid the Forest Service and adjoining property owners in locating boundaries.

Photogrammetry. A third Kelsh Plotter was installed and placed in use this year. One is used in support of adminstrative and recreational site development. The other two are assigned to road location and design.

Single and double-shift utilization of the C-8 Stereoplanigraph has been necessary to provide right-of-way data to the Forests and to the Division of Rrecreation, Lands and Watershed Management and to expand basic horizontal and vertical field control nets for the Kelsh Plotters.

Map production in 1963, by type of survey, included:

Route Reconnaissance	540 miles
Area reconnaissance	230 square miles
Right-of-way	44 lineal miles
Design survey mapping	25 miles

Communications. The Northern Region's first dial radio-telephone system was installed on the Clearwater National Forest. It provides communication between the Supervisor's office in Orofino, Idaho and the back-country Kelly Creek Ranger Station, Bungalow Ranger Station and Canyon Ranger Station.

A survey has been completed in preparation for installing a new radio system on the Bitterroot National Forest. This year 136 new radios were purchased. These included radios necessary to convert the Helena National Forest to a high band system.

Building Construction. Construction activity was greatly increased this year. Accelerated Public Works funds financed some of this construction.

Construction on the National Forests provides better working facilities, aids in serving visitors and improves housing for employees. It also contributes to the welfare, growth and economy of local communities. The following

were built, placed under contract, or construction was started this year:

Four offices
Seven office-warehouses
Eleven garage-shops
Eighteen 3-bedroom residences
Nine 12-man barracks
Three 75-man cookhouses
Six gas and oil houses
Six Garages
Two pumphouses
Two cabins

Utilities. Campgrounds require adequate and safe water and sanitation facilities. In addition to the usual water and sanitation needs, administrative stations require electric power.

This year water systems were designed and constructed for 21 sites. Sewerage systems were designed and constructed at 16 locations; electrical systems were provided at six new sites.

Thirty-one water wells were completed. Ten were at administrative sites and 21 for recreation areas. Irrigations system additions were designed and constructed at the Coeur d'Alene and the Savenac Tree Nurseries.

Roads and Trails. The Region's road and trail system was materially increased and improved this year. There are 24,309 miles of trails and 21,947 miles of roads in the 16 National Forests of this Region.

Blackfoot River Bridge, Helena National Forest.



Construction included 704 miles of new roads and 15 miles of new trails and reconstruction of 258 miles of roads and 42 miles of trails. Of the 962 miles of roads built in 1963, 25 miles were for campgrounds and administrative sites, 896 were timber access roads, 41 miles were all-purpose roads. In addition, a total of 694 miles of low standard roads were built in timber sale areas. This road construction included the installation of 44 new bridges and the replacement of 23 inadequate structures.

Major bridges completed this year:

—124-foot prestress concrete bridge over the St. Regis River, Coeur d'Alene National Forest.

—115-foot prestress concrete bridge over the Blackfoot River, Helena National Forest.

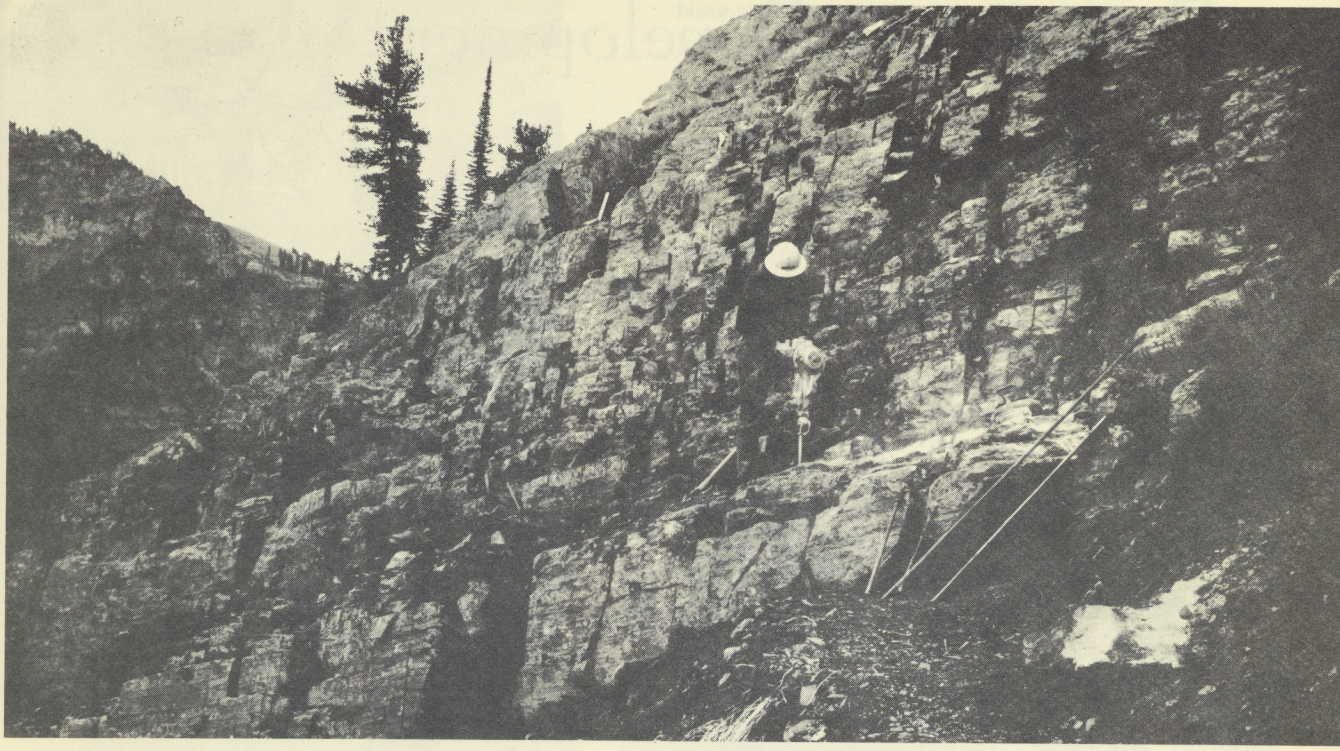
—16-foot plate girder bridge over the West Fork Bitterroot River, Bitterroot National Forest.

—bridge over Moose Creek, Nezperce National Forest.

—bridge over North Fork Sun River, Lewis & Clark National Forest.



Point Six all-purpose road, Lolo National Forest.



Trail construction, Cedar Creek Trail No. 141, Kootenai National Forest.

Six other major road bridges have been placed under contract for completion in 1964.

A total of 230 miles of National Forest roads were treated with oil to control dust.

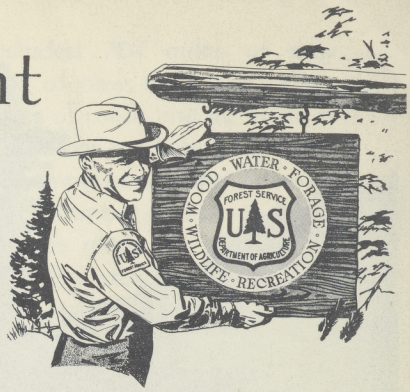
This was the fourth year of an accelerated 10-year trail construction and improvement program. The objective is to provide adequate trails in Wild and Wilderness Areas. Trails are essential for fire control, game harvest, recreation and management of the National Forest lands. This year, 57 miles of trails were constructed to required standards; 11,145 miles of trails were maintained.

Road and trail accomplishments were 33 percent greater than the previous year. Accomplishments are tabulated below.

	Work Accomplished By			
	Appropriated Funds	Timber Purchaser	Accelerated Public Works	TOTAL
Bridges built	**57**	**9**	**1**	**67**
Miles road constructed	**48**	**634**	**22**	**704**
Miles road reconstructed	**24**	**206**	**28**	**258**
Miles trail constructed	**15**	.....	.....	**15**
Miles trail reconstructed	**37**	.....	**5**	**42**

Hydrology. Analysis of annual water yields were completed for 14 Ranger Districts. This information is incorporated in the Districts' Multiple-Use Planning.

Equipment Development & Testing



The Forest Service Equipment Development & Testing Center at Missoula provides forest workers with special equipment and work methods for more efficient and effective management of National Forest resources. Development and testing work at the Missoula Center is coordinated with E D & T work throughout the Forest Service. Findings and products developed here are available to all the Forest Service's National Forests.

Major fields of current development and testing include equipment for:

—parachuting men, equipment and supplies for fighting forest fires.
—new equipment and methods for fire suppression.
—controlling timber-destroying insects and diseases.
—transporting men and supplies in roadless areas.
—constructing and maintaining forest trails.
—forest nursery and planting and thinning of timber.
—increasing the utility of small helicopters.
—protecting forest fire fighters.
—transporting men and equipment by aircraft.

Hard hat, heat-reflecting mask and fire-resistant shirt protect this fire fighter.



One-man trenching machine speeds fire line construction.



Projects recently completed at the Missoula E D & T Center:

—one-man trenching machine; digs fire-line faster than three men with hand tools.
—sign layout staging frame to speed production of large Forest Service signs.
—individual fire shelter for fire fighters.
—roller conveyors for loading and ejecting aerial cargo.
—improved packing for aerial cargo.
—equipment purchasing standards and specifications, for economy, efficiency and safety.

The Missoula E D & T Center is under the administrative supervision of the Northern Regional Forester; budgets and programs are subject to the direction of the Forest Service's Division of Engineering, Washington, D.C.



New sign layout stage speeds, improves production of large Forest Service signs.



Testing packaging and conveyor roller designed to reduce the cost of aerial delivery by parachute.

Mobile lookout position in area of temporary high fire danger.



Fire Control



A dry winter and spring caused concern about water shortages and the possibility of a critical fire season in 1963. Due to heavy June rains which covered most of the Region it did not develop. Lightning occurrence was above normal, usually associated with high humidities and showers. As a result, most lightning fires were quickly controlled.

Fall was the most critical time of the 1963 fire season. Hot, dry weather in September and October accompanied by above normal lightning activity developed a fire situation typical of July and August. Both lightning and man-caused fire occurrence was above normal for this time of year.

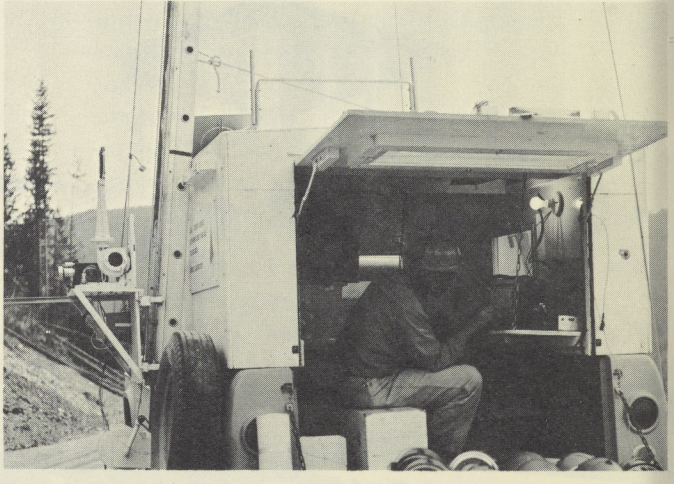
Prevention. Man-caused fires were held to a record low through September. Each Forest gave special attention to one type of man-caused fire that had given the Forest particular trouble in the past. The cooperation of local radio stations, newspapers, motion picture theaters and television stations helped keep the public aware of the fire danger and the threat of man-caused fires. In the fall there was a sharp increase in man-caused fires. Many of them resulted from abandoned campfires, warming fires and cigarettes where hunter use was heaviest. These fires came after seasonal fire prevention specialists had returned to school or other work. Several serious fires late in the fall developed when high winds spread debris-burning fires out of control.

Fire prevention plans for 1964 call for continued emphasis on individual contacts with the growing number of people using the National Forests of the Northern Region. Again posters, newspapers, radio and television will be used in a continuing effort to educate the public to the danger of man-caused fires.

Fires. Through August the area burned in the Northern Region was below the burn of 1962, but fires in September and late October resulted in a total burned area in excess of the previous year. The 5,180 acres burned in 1963 was well below the previous 20-year average of 10,159 acres.

A total of 1,879 fires occurred in 1963. This is 690 more than the 1,189 fires in 1962. It is also greater than the previous 20-year average of 1,191 fires. Eighty-four percent of the 1963 occurrences (1,583 fires) were caused by lightning. Sixteen percent (296) fires) were man-caused. Man-caused fires burned 3,493 acres of 67 percent of the 1963 total.

Largest forest fires of the season were: North Lost Creek (1,360 acres), Flathead National Forest; Little Granite (480 acres), Nezperce National Forest; Lyon Creek (442 acres), Gallatin National Forest; Cave Hills (432 acres), Custer National Forest.



National Forest Fire Laboratory scientist, in a mobile research unit, studies fire intensity and heat on a prescribed burn.

Lookouts. Accelerated Public Works funds, made available through the Department of Commerce, financed the construction of fire control facilities such as forest fire lookouts and warehouses for equipment. Most of the lookout construction was to replace old lookouts in service since the 1930s. APW funds also financed the construction of some access roads to back country fire lookouts.

Slash Disposal. Disposal of slash is designed to reduce the forest fire hazard. This is accomplished by a variety of methods: hand piling and burning, bulldozer piling and burning, scattering, broadcast burning and lopping.

The long, dry fall provided excellent conditions for burning logging slash and debris. The hazard created by this material was reduced or eliminated on approximately 86,000 acres in 1963.

Cooperative Programs. Montana Indian firefighting crews are trained and used on forest fires in a cooperative program involving the Bureau of Land Management, the National Park Service, the Forest Service and the Bureau of Indian Affairs. In 1964 the agencies trained Indian firefighting crews and crew bosses. They also trained liaison officers to accompany Indian crews to fires. This year the Lewis & Clark National Forest dispatched a total of 706 Indians to nine fires. The Custer National Forest assigned 341 Indian firefighters to five fires.

Idaho and Montana employment services continue their close cooperation in recruiting firefighters when needed by the Forest Service.

U.S. Weather Bureau faithfully provides fire-weather forecasts for readiness planning, suppression work and for late season slash disposal burning. A mobile Weather Bureau forecasting unit and operator are held in readiness during the fire season for use on large fires. In 1963 this unit was used on one wildfire and three prescribed burns.

The Weather Bureau's Point Six radar station, near Missoula, continues to be a great aid in detection, identification and short range forecasting of thunderstorm activity within a 150-mile radius.

This year the Weather Bureau provided the Forest Service 20 special fire-weather forecasts in connection with wildfires and 236 spot forecasts for prescribed burning operations.

Research. The Division of Fire Control enjoys a close working relationship with the Intermountain Forest & Range Experiment Station of Ogden, Utah and the Station's Northern Forest Fire Laboratory in Missoula. Currently the Division of Fire Control is working with NFFL on several promising propjects designed to improve and facilitate the job of forest fire control. These include:

A new fire-danger rating system for use in 1964.

Improved guidelines for the Region's expanding prescribed burn program.

NFFL Project Fire Scan, using heat-sensing equipment in aircraft, for the detection of fires and aerial mapping of large fires.

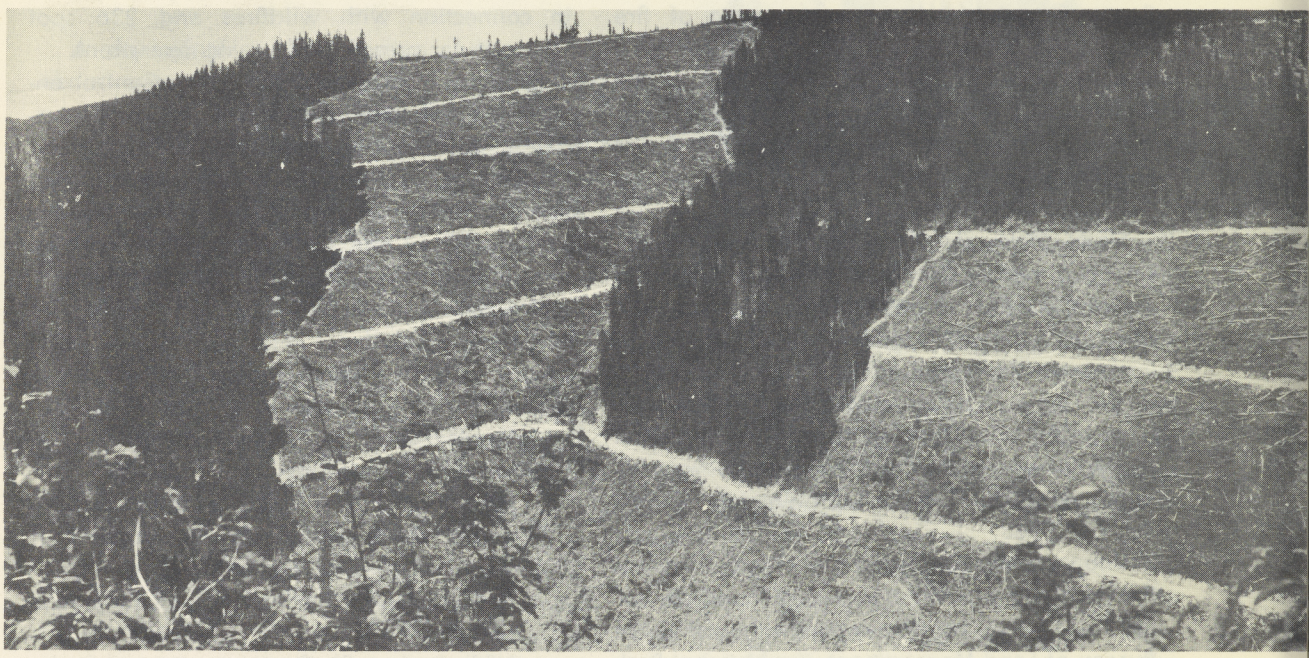
Evaluation of the effectiveness of chemical retardants.

NFFL Project Skyfire is investigating the possibility of modification of lightning-producing clouds to reduce the number of lightning fires.

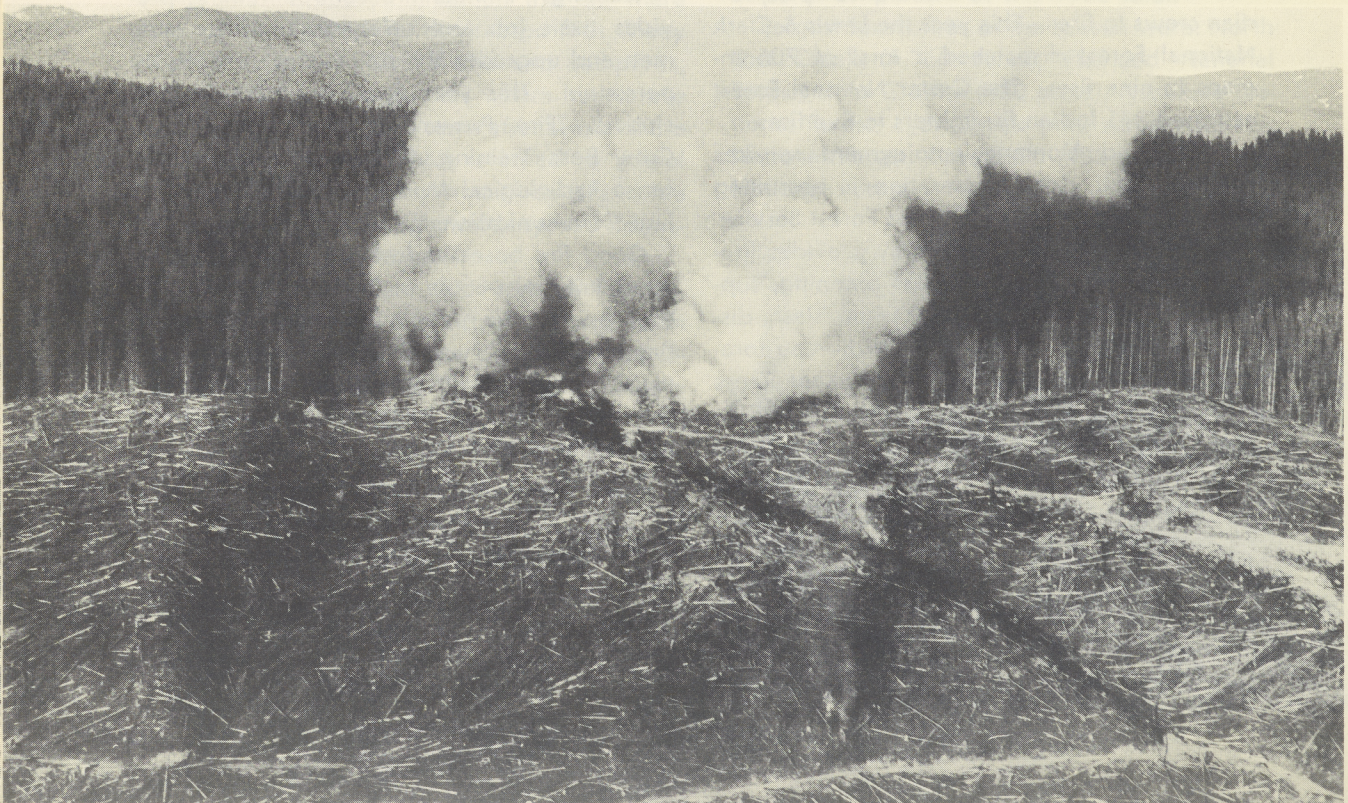
Training. Annual fire control training provides basic job and safety training for new men and upgrades the training of supervisory personnel. This year fire control training included: "Fire Prevention, Law Enforcement, Crew Boss Training, Guard School, Civil Defense Radiological Monitor, Fire behavior and Fire Communications."

Good fire boses and efficient financial managers are key people on large forest fires. To develop capable people for these jobs, three fire bosses and three financial chiefs attended the 1963 National Fire Generalship School at the Forest Service Continental Divide Training Center in New Mexico.

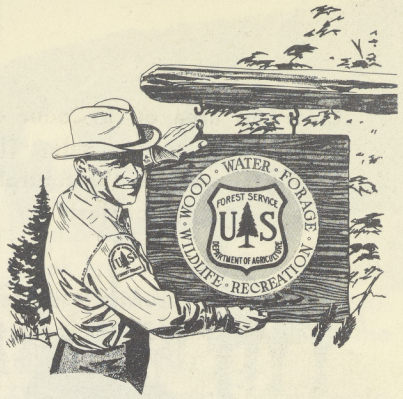
Clear cut area on a Coeur d'Alene National Forest timber sale. The area has been prepared for the controlled burning of slash.



Burning slash to prepare a site for planting and new timber stand. This clear cut block is on the Clearwater National Forest.



Recreation Lands & Watersheds



Recreation. The 27 million acres of public land in the 16 National Forests are growing in importance in the Region's fourth ranking industry: Recreation. More and better recreational facilities as well as improved accessibility are increasing the National Forests' capacity for providing outdoor recreation for more and more visitors. Multiple-use management is providing pure water, preserving scenic values and improving the habitat for wildlife. These, in turn, are contributing to recreational values beyond National Forest boundaries.

More recreational facilities were constructed in 1963 than in any previous year. Much of this was financed with Accelerated Public Works funds, made available through the Department of Commerce to help alleviate economic conditions in depressed areas. More than 800 new individual family camp and picnic units were constructed. Recreation developments this year also included wells, water systems and boat launching ramps. Accelerated development of recreational facilities will have to be sustained as recreational use of the National Forests continues to increase.

Recreational facilities in use this year included: more than 3,700 family units in 381 camp and picnic sites; 52 boat-launching ramps; and 18 developed beaches. Under special-use permits, private capital has been invested in 16 winter sports sites, 23 organizational camps, 52 resorts and other commercial recreational facilities.

Travel from outside the Region was not as great as in 1962, the year of the Seattle World's Fair. However, the number of recreational visits to the National Forests continued to increase. This year recreational visits exceeded 8,300,000 and the average visitor stayed longer. Winter sports visits quadrupled between 1957 and 1962 but this steady increase leveled off in 1963 because of a poor snow season. Approximately 300,000 winter sports visits were recorded this year.

Wilderness. A total of 3,100,115 acres are maintained for wilderness-type recreation in the Region's ten Wild, Wilderness and Primitive Areas. Visitors in these areas enjoy unspoiled scenic grandeur and have an opportunity to observe mountain goat, mountain sheep, elk, moose, grizzly bear and a variety of other animals in their native habitat.

The Secretary of Agriculture established, under Regulation U-1, the 1,239,840-acre Selway-Bitterroot Wilderness Area in January of 1963. This is the Nation's largest classified wilderness area.

A study of the Cabinet Mountains Primitive Area in northwestern Montana has been completed and the Forest Service announced a proposal in 1963 to reclassify it as a Wild Area. Public hearings on the proposal were conducted in February of 1964.

Several areas are now being studied for possible classification as scenic areas. Other areas are being considered for addition to the National Forest wilderness system.



Grizzy Peak Ski Area in Custer National Forest near Red Lodge, Montana.

Land Adjustments. Land for administration building sites was purchased this year at Whitefish, Lima and Superior in Montana and at Avery and Riggins in Idaho. An exchange of land is being completed on the Bitterroot National Forest to provide an expanded site on U.S. Highway 93 for the Sula Ranger District. Similar land exchanges are being completed on the Nezperce and Clearwater National Forests. Other land adjustments, designed to facilitate efficient and economical resource management, are in various stages of completion on nearly all of the Region's Forests.

A great deal of progress was made this year in locating and marking property corners to perpetuate locations established in earlier surveys. This is being achieved in cooperation with the U.S. Bureau of Land Management and private landowners.

Rights-of-Way. Road and trail access across private lands is essential for effective multiple-use management in areas where there is extensive private land intermixed with the National Forest. This year the Forest Service acquired access to 511 miles of roads and trails on 328 rights-of-way.

In areas of checkerboard ownership of National Forest and private lands, ten cooperative agreements provide for proportionate sharing of the cost of constructing a single road system to serve all land owners. By an exchange of easements, each cooperator has the right to use segments of the road system necessary for the management of his lands.

The right-of-way acquisition program included the purchase of privately owned road systems in the Fisher River area of the Kootenai National Forest, the Beaver Creek area in the Clearwater National Forest, and the Glover Creek area in the St. Joe National Forest. Several other purchases are being completed.

Watershed Management. Restoration activities this year were focused on larger, more detailed projects than in the past. Watershed management work has continued on the area burned by the Sleeping Child fire in the Bitterroot National Forest; further stream improvement work was completed near Coeur d'Alene and Hayden Lakes in north Idaho.

Two special watershed management projects were initiated this year. A detailed hydrologic watershed analysis is being made of Meadow Creek in the Nezperce National Forest to provide accurate and current information for future protection of this valuable drainage and its resources. Effects of corrective measures to prevent sedimentation in logging and road building are being studied in Pete King Creek in the Clearwater National Forest.



Seeley Lake Campground, Lolo National Forest.

New stream gaging stations have been established to provide added information for a water-yield inventory. Also, the Northern Region is now participating ,with personnel and financing, in snow course measurements on the National Forests.

Field work was completed this year on the hydrologic analysis on the Little Boulder River under the provisions of Public Law 566; the Montana Soil Conservation Service is cooperating in the preparation of the report of these field studies. The Forest Service continues its close cooperation with Montana State University and Montana State College staffs and students in watershed field analysis work.

Nine impact reports were completed for major highway and water storage projects in the Northern Region. These included Interstate No. 90 Highway in Coeur d'Alene National Forest and Penny Cliff dam on the Clearwater River.

Soils. It is soil that largely determines use potential and development limitations of a given piece of land. Different soils reflect variance in the productivity of trees and forage, rate of water infiltration, runoff, susceptibility to erosion and engineering characteristics. Detailed soil information is essential for effective resource management and planning. Surveys of soils have been completed on approximately 1.1 million acres of National Forest land in the Northern Region.

This year soil survey work was completed on the Custer National Forest's Ashland Division; field work is proceeding on the Coeur d'Alene National Forest St. Regis Ranger District. A soil management report has been completed for the Kooskia area of the Nezperce and Clearwater National Forests of north Idaho and a soil survey of the Curlew and Republic Ranger Districts of the Colville National Forest is being incorporated in soil management reports for the districts.

In connection with research activities, soil studies were conducted at the Coram Experimental Forest in the Flathead National Forest, in the Spruce Creek area in the Clearwater National Forest, and at the Musselshell direct seeding project in the Jefferson Division of the Lewis & Clark National Forest.

Minerals. Citizens can explore for minerals, stake mining claims and mine for certain minerals in National Forests. Less than one percent of the public land in the Forest Service's Northern Region is closed to mineral entry and exploration.

Since the passage of the Multiple-Use Mining Law (Public Law 167) in 1955, the Forest Service has been reviewing and evaluating mineral claims on National Forest lands. The Bureau of Land Management makes the determination as to the validity of claims under this law.

This year surface rights were studied in 28 areas; final decisions were made on 5,102,237 acres of National Forest land. A total of 21,089,487 acres in the Northern Region have now been processed under the provisions of the Multiple-Use Mining Law. The Forest Service now has jurisdiction to manage surface resources on these public lands.

Mineral leasing on National Grasslands and National Forests of the Region returned approximately $657,000 to the U.S. Treasurer in 1963. Local counties receive 25% of these earnings for schools and roads.

Most of the mineral earnings in this Region are from oil and gas leasing in the National Grasslands. There are more than 90 producing oil wells in the National Grasslands of the Custer National Forest. Silver, gold, copper, zinc, chrome, manganese, iron and tungsten deposits are also found in the National Forests of the Northern Region.

Other mineral management activities in 1963 included:

Three mineral trespass cases were taken to court. All three resulted in action favorable to the U.S. Government and resulted in recovery of approximately $144,000.

—conducted nine mineral hearings involving 39 mining claims.

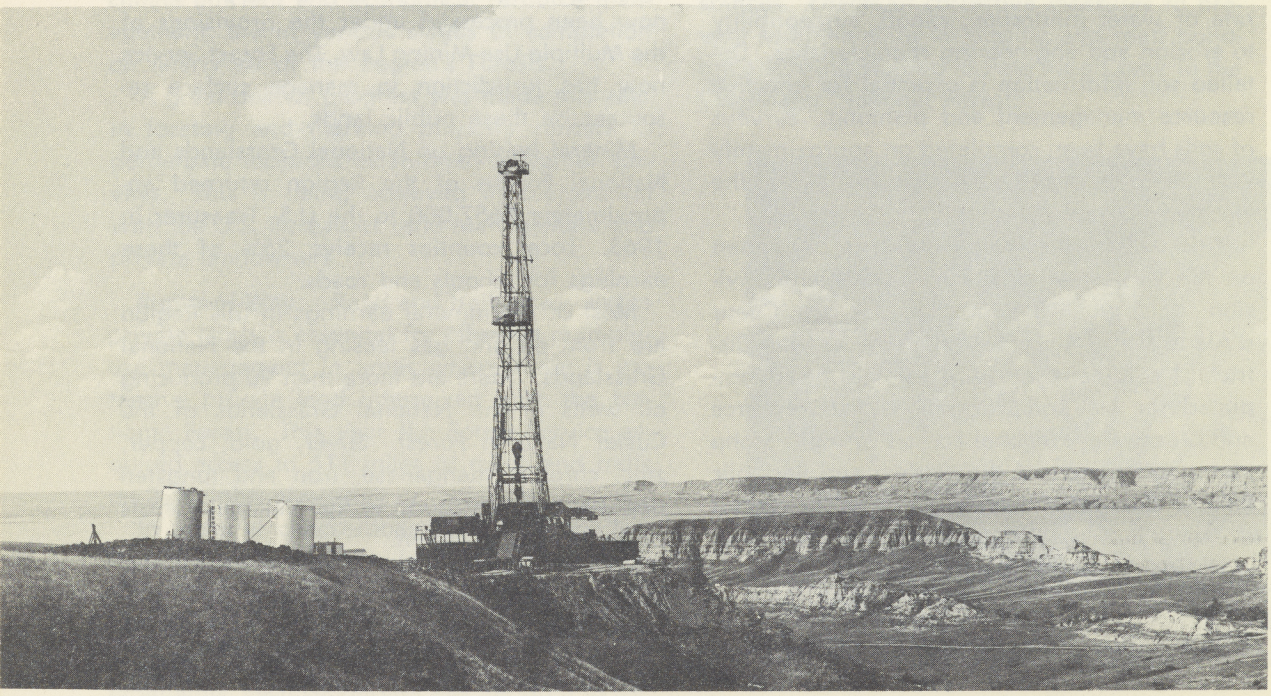
—examined sixteen verified statements on 89 mining claims under the provisions of the Multiple-Use Mining Law.

—examined 15 General Mining Law cases involving 62 mining claims on National Forests.

—completed 105 water resource studies in connection with well construction at campgrounds administrative sites.

—eighteen geological studies were completed in connection with: road and bridge construction, mineral determination on land exchanges, soil and water studies, geological points of interest sites, wild and primitive area classification.

One of more than 90 producing oil wells in the National Grasslands of the Custer National Forest. This one is in the Charlson oil fields. Garrison Reservoir is in the background.



State & Private Forestry



This Division is responsible for cooperative forestry programs, administered through State Foresters. Insect and disease control, on forest lands of all ownerships, is administered by the Division of State & Private Forestry; control programs on state and private lands are planned cooperatively with State Foresters.

Cooperative Fire Protection. While the fire season for the State Forester of Montana was near average, the number of fires was above average and the total acreage burned was below average. This year the season started early and extended beyond the usual closing date with an increase in the total number of lightning fires.

Moist burning conditions in the first two months gave way to a period of severe lightning activity and high burning indexes for the State Forester of Idaho fire season. There were twice as many fires as in the previous year and the area burned was seven times the 1962 acreage. Twenty percent of the fires in 1962 were lightning caused; this year sixty-two percent of the fires were lightning caused.

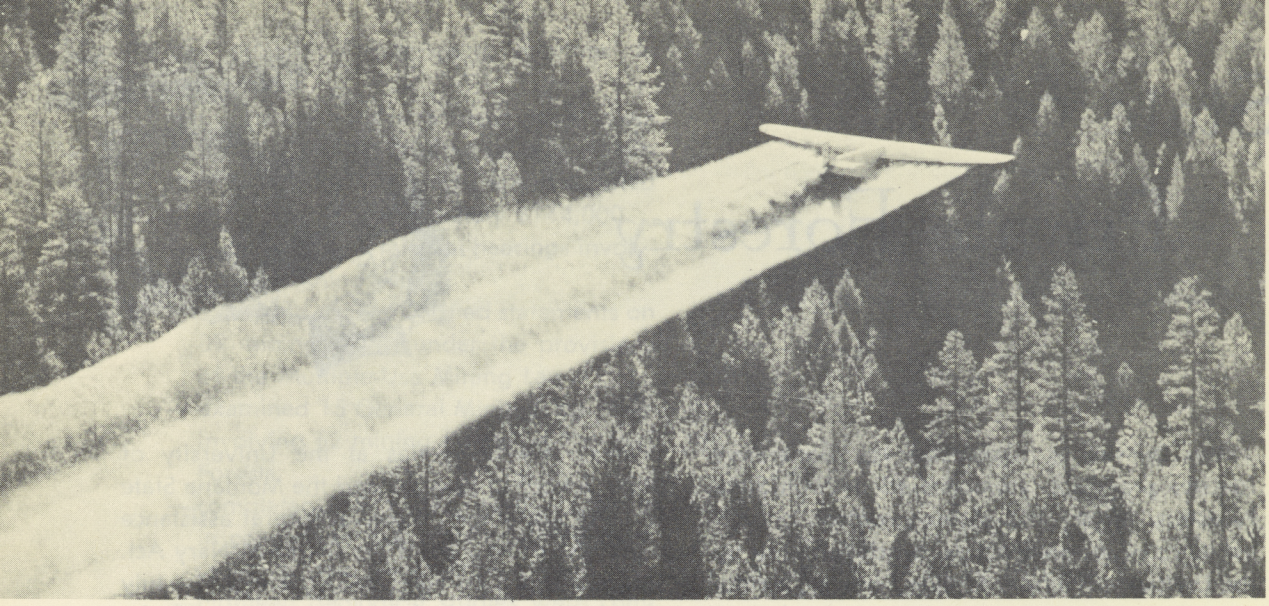
Aircraft use and aerial application of chemical fire retardants are playing increasingly important roles in State fire suppression plans. States are continuing to make effective use of surplus military equipment in their fire control programs.

Tree Planting. More than 1,000,000 tree and shrub seedlings were distributed by the Montana nursery and 518,000 seedlings were distributed by the Idaho nursery for planting on State and private lands for windbreaks, forests and woodlots.

Forest tree nurseries at the University of Idaho School of Forestry and the Montana State Forestry Department receive Federal assistance under the provisions of the Clarke-McNary Act. The Montana State Forestry Department on July 1, 1963 assumed the responsibility of the nursery formerly operated by the Montana State University School of Forestry. All of Montana's cooperative forestry programs are now administered by the State Forestry Department.

Idaho and Montana reforested a total of 627 acres on State forest lands under the provisions of the Agricultural Act of 1956, Title IV, that provides Federal assistance for tree planting and artificial seeding of State and private forest lands. Of this total, 252 acres were planted and 375 acres were directly seeded where natural seed sources were not adequate.

Cooperative Management. Federal financing, through the Cooperative Forest Management Act of 1950, assists State Foresters in aiding private landowners to develop good management practices for forest lands. Montana and Idaho employ six professional foresters to provide technical assistance to 592 private landowners in the Northern Region who own approximately 65,600 acres of forest land. More than 2,100 acres of private forest land had the benefit of thinning, proper harvesting, pruning, planting or seeding this year. Many of these landowners received cost-sharing assistance for thinning, pruning and tree planting through the Agricultural Conservation Program.



Aerial spraying of Douglas-fir timber to control spruce budworm.

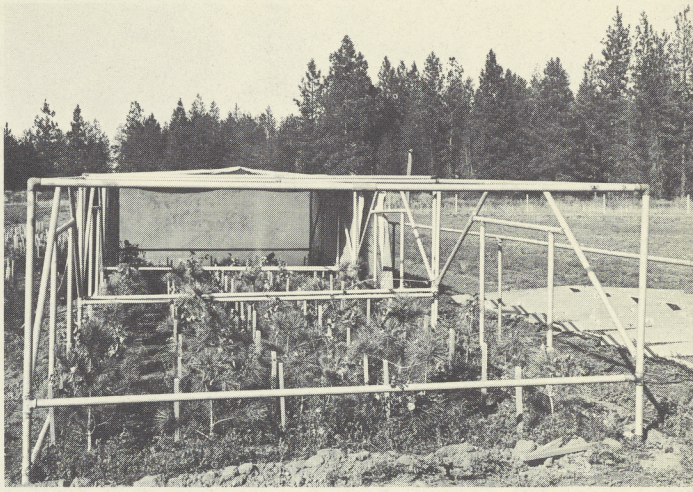
Rural Areas Development. Forest Service representatives serve on 28 county Rural Area Development Technical Action Panels in the Region. The U.S. Department of Agriculture Rural Areas Development Program is designed to stimulate local initiative and leadership in creating new economic opportunities. Technical Action Panels provide county RAD committees technical assistance in planning and development. In those areas designated by the Area Redevelopment Administration as "depressed," these Panels cooperate in reviewing applications for loans and grants. This year Forest Service representatives provided technical assistance to ARA on thirteen applications, including two plywood mills, four sawmills, two feasibility studies, two remanufacturing plants, two ski areas and a pulp mill. ARA loans and grants were approved for a plywood mill, a ski area and a feasibility study. Other applications are pending.

Civil Defense. In Idaho, Montana, North Dakota, South Dakota and Washington, Forest Service representatives serve on 39 U.S. Department of Agriculture county civil defense boards. There are 95 manned radiological monitoring stations in the National Forests of the Northern Region. The Regional War Disaster Plan and the Rural Fire Defense Plans for Idaho and Montana are being updated.

Insect and Disease Control. Fires, insects, diseases, animals and adverse weather all threaten the present and future productivity of the forests. Immature timber stands on State, Federal and private lands will be needed to meet this nation's future demands for high quality softwood timber. These stands must be protected from all destructive agents. Diseases and insects far outrank all other destructive agents. Sustained yields of high quality timber is one of the prime objectives of forest insect and disease control. Control methods must be economical, practical and produce minimum side effects. Selective pest control methods are being used by the Forest Service. They include cultural practices, genetic improvements, chemicals, antibiotics and introduced parasites.

Disease Control. Pathogenic agents destroy foliage, reduce tree growth, kill trees, and cause root, butt and trunk rot. Many rots can be controlled by sound silvicultural practices and harvesting trees at the proper rotation age.

White pine blister rust and the dwarfmistletoes are the two most destructive forest tree diseases in this area. If not controlled, white pine blister rust would result in the nearly complete destruction of all white pine stands in the Northern Region.



Artificial innoculation chamber at Coeur d'Alene Nursery. White pine nursery stock is treated with antibiotic to evaluate level of immunity.

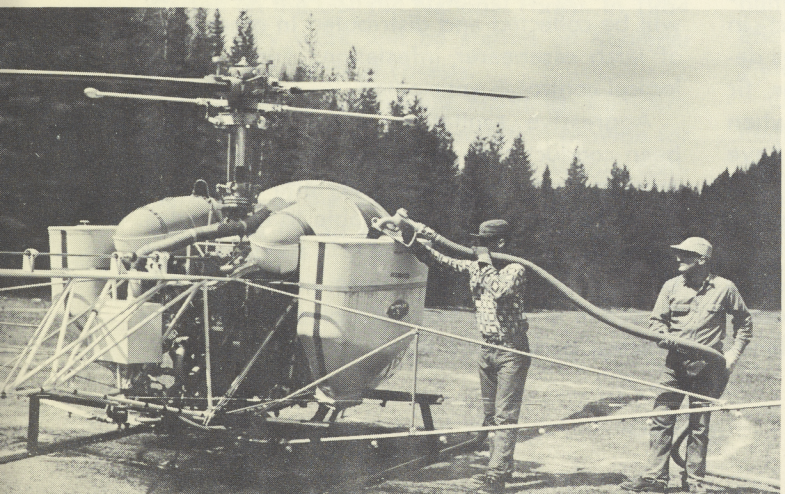
Cooperative forest genetics research and development by the Division of State and Private Forestry and the Intermountain Forest and Range Experiment Station indicate that a blister rust resistant western white pine nursery stock may be available soon. It is anticipated that about one-half of the stock will be able to withstand intense exposure to the rust disease. The stock will be two generations removed from the original resistant parents. Initial large scale seed production is scheduled for about 1980. While neither highly resistant nor immune, the stock can be mass produced in grafted seed orchards.

The use of antibiotics in disease control is still a pioneering effort. Application of systemic antibiotic fungicides is making a substantial contribution to the control of white pine blister rust. Approximately 330,000 acres of heavily infested western white pine stands have been treated with antibiotics on lands of all ownerships in the Region. This year control measures were applied on approximately 120,000 acres of the Region's 2,000,000 acres of rust-infected timber. Aerial application of antibiotics has almost completely replaced the old hand application technique.

Antibiotics kill most of the existing pine rust infection and immunize treated trees against new infections. But the exact period of blister rust immunity resulting from a single antibiotic application has not yet been established. No new infection has been detected on any trees that have been properly treated with antibiotics.

All western white pine planting stock is now treated with an antibiotic in nursery beds to immunize the tree against blister rust infection. But the degree or period of immunity is not known.

No ill side effects have resulted from widespread application of antibiotics.



Loading an antibiotic solution for aerial spraying on white pine blister rust-infected timber in the St. Joe National Forest.



Aerial spraying of western white pine with an antibiotic to control white pine blister rust on the Kootenai National Forest.

Dwarfmistletoes are the most destructive of tree diseases in coniferous stands. These seed-bearing, parasitic plants cause growth loss and tree death; they are controlled by stand manipulation. After logging operations, all infected residual trees are destroyed and in thinning operations nearly all dwarfmistletoe-infected trees are felled or the infected branches are removed.

Dwarfmistletoe occurs mainly in western larch, lodgepole pine, Douglas-fir and ponderosa pine stands. This year dwarfmistletoe control work was completed in approximately 18,000 acres.

Insect Control. Spruce budworm continues to be the most destructive forest insect in Montana. This defoliator persists in various degrees in most all of Montana's Douglas fir stands; a serious fire hazard develops when there is heavy tree mortality. Many trees have been killed. Others are badly deformed and radial growth loss occurs in heavily infested stands.

Aerial spraying was completed this year on 411,000 acres of spruce budworm infested stands. Adjoining state and private forest lands were included in this spraying. In the past 12 years approximately 3,315,000 acres of forest land of all ownerships have been sprayed for the control of the budworm. Some areas will require additional treatment.

Larch casebearer continues to spread through western larch stands. While no tree mortality has resulted from this defoliator, radial growth loss is as high as 40 to 50 per cent in heavily infested larch stands.

A wasp-like parasite has been liberated near St. Maries, Idaho to control and destroy the larch casebearer. The parasites are not yet numerous enough to effect control. When local colonies of parasites become abundant, they will be collected and distributed in other areas of larch casebearer infestation. Eventual biological control is anticipated.

Aggressive sanitation-salvage logging has been conducted on lands of all ownerships to salvage beetle infested timber and to create a forest environment unfavorable to the beetles. Logging for control continues in accessible bark beetle epidemic areas. At present the Douglas-fir beetle and the mountain pine beetle is the greatest bark beetle threat in the Region.



Timber Management

Sales and Harvest. An all-time record 1,520,451,000 board feet of timber was sold in the National Forests of this Region in 1963. The timber harvest, 1,442,362,000 board feet, was also the highest ever recorded. At the end of the year 3,001,800,000 board feet of timber under contract remained uncut.

Commercial harvesters cut 323,076 Christmas trees. Most of these were cut in four National Forests of western Montana.

Management Plans. Timber harvest, planting, timber stand improvement work, insect and disease attacks, forest fires and increasing utilization of wood products require frequent, periodic reinventory of working circles. By 1962 timber management plans were completed on all working circles. Reinventory of these working circles is now in progress.

The timber reinventory and revision of the Coeur d'Alene National Forest's Timber Management Plan were completed this year. Field reinventory work has been completed for the Colville, Clearwater, Lewis & Clark and Beaverhead National Forests; reinventory work was started on the Gallatin National Forest. In 1964 reinventory work will be started on Kootenai and Custer National Forests.

In Timber Management Planning, Compartment Examination and Prescription provide for intensive study of timber stands within compartments of the working circles. This provides basic data for all timber action plans and programs.

Resource Accounting has been initiated to accelerate work planning on the Forests and Ranger Districts. Data from the examination and prescribed treatments are recorded for each compartment; this is adapted to Automatic Data Processing. When this new resource accounting system is fully developed, information will be available in a matter of a few minutes.

Management Guides. Improved management guidelines are required in bringing more National Forest timberland under intensive management. Comprehensive instructions are being developed for the management of major timber species. These guidelines will reflect Regional policy and management procedures, ranging from regeneration to harvest. Foresters assigned to management of timberlands will use these guides as working tools in the intensive management of National Forest timber.

Timber Stand Improvement. Research and management foresters have long recognized that most of the Region's timber stands are overstocked. Unless this problem of the sheer number of trees is dealt with effectively, prolific nature will sharply limit future timber yields.

Of the Region's several million acres of immature timber, approximately 1.5 million acres are in urgent need of timber stand improvement. Thinning, release of crop trees and removal of undesirable competitive vegetation would be of benefit to most of the young stands.



Overstocked larch and lodgepole on the Fortine District, Kootenai National Forest. Many natural stands of trees are overstocked. If left in this condition, future timber yields would be sharply limited.



This is the same stand shown above, after thinning was completed. Larger, faster-growing trees were left. The number of trees to be left is determined by the ability of the area to produce wood volume.

In all timber stands, lower limbs die as the trees grow older. Black or loose knots produced by the dead limbs fall out when the tree is cut into lumber or veneer. The cool, dry climate is not conductive to self-pruning and, as a result, dead limbs persist as long as 80 years. Artificial pruning can increase the lumber selling value of the subsequent growth by over 400 percent.

Timber stand improvement accomplishments for the fiscal year that ended June 30, 1963, include:

Release and Weeding .... 7,914 acres
Thinning .....11,855 acres
Pruning ..... 1,450 acres

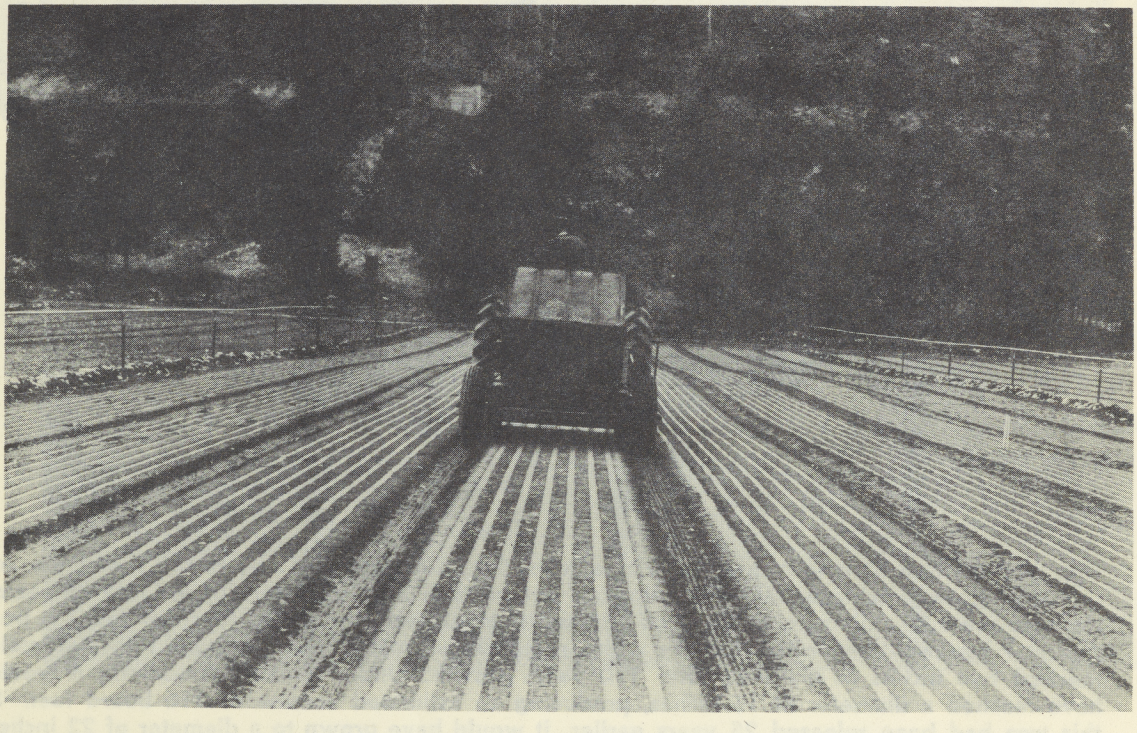
Reforestation. In 1960 the Forest Service started construction of a new tree nursery at Coeur d'Alene, Idaho. This year building construction and other improvements were completed at the 220-acre nursery on the Coeur d'Alene National Forest. At full capacity, this new nursery and the Savenac Nursery at Haugan, Montana, will have a total annual capacity of 50 million trees.

In fiscal year 1963, a total of 6,321,000 trees were shipped from the Coeur d'Alene and Savenac nurseries. An estimated 9,000,000 trees will be shipped in fiscal year 1964.

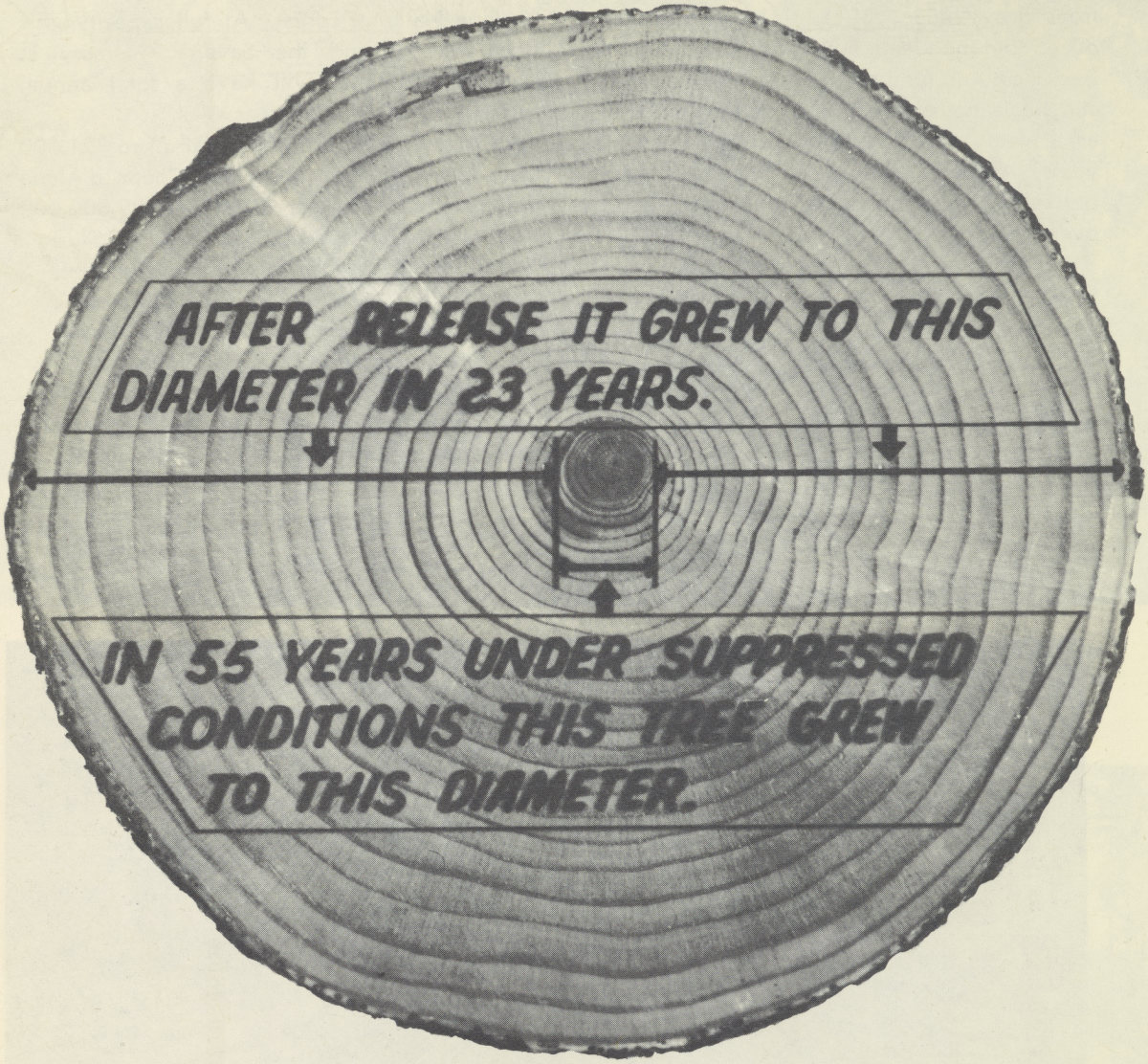
Reforestation work this year included:

Planting .....11,237 acres
Direct Seeding ..... 918 acres
Site Preparation .....27,126 acres

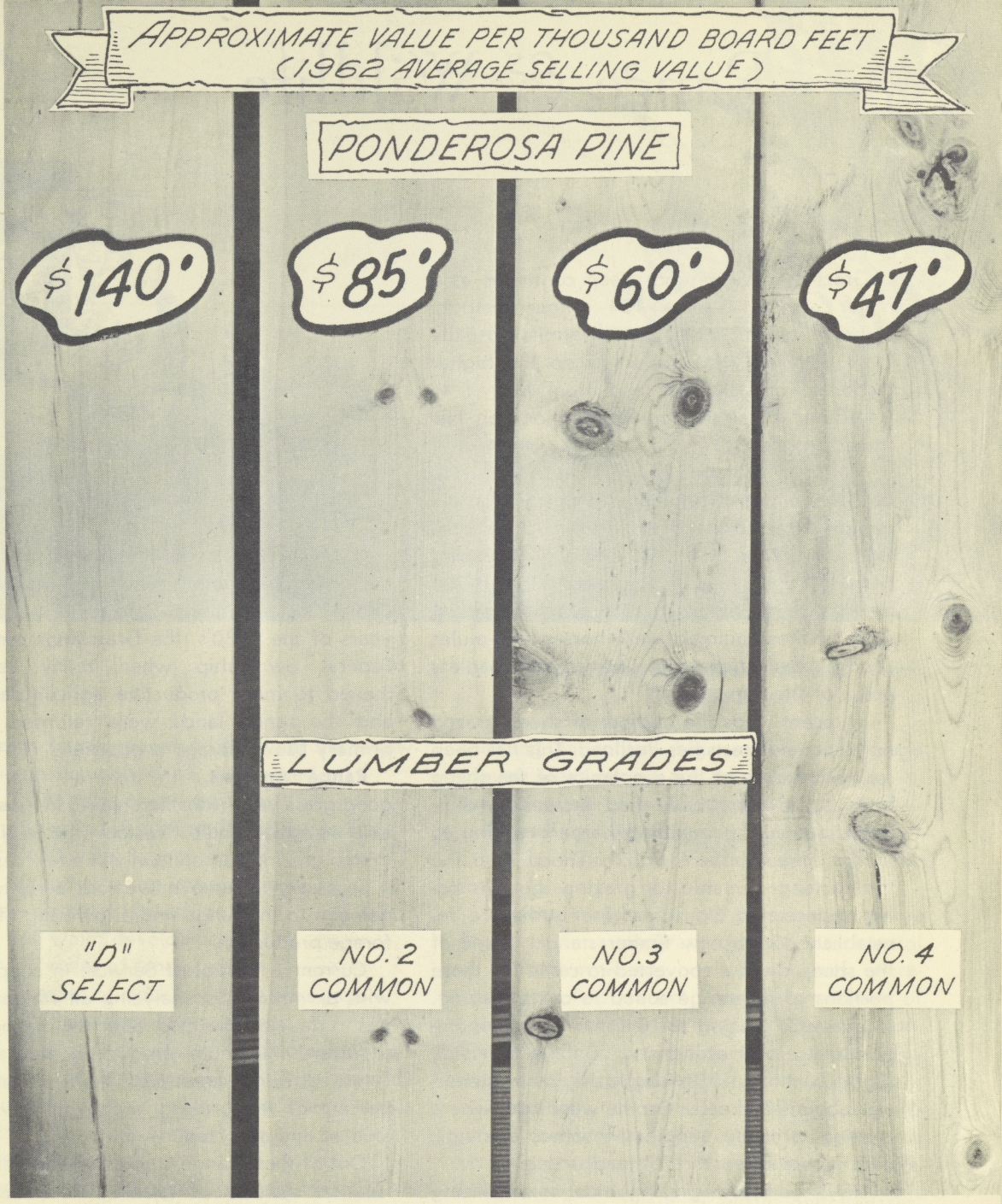
Statistical Information. Information on volume of timber cut and sold, by product and species, is given in the Statistical Appendix.



A drill seeder in operation at the Savenac tree nursery, Haugan, Montana. Broadcast sowing often produces too dense a growth of young trees. By adjusting the drill outlets on the drill seeder, young trees can be properly spaced. Drill sowing also lends itself to machine weeding and cultivation, formerly done by hand.

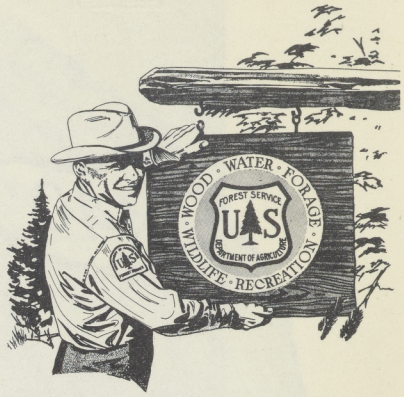


This cross section of a lodgepole pine tree from the Deerlodge National Forest shows the accelerated growth achieved after thinning an overstocked stand of trees. In the first 55 years, this tree grew to a diameter of ¾ of an inch under stagnated conditions. After release, the tree diameter increased ten-fold. Had the stand remained untreated, this tree would have scarcely reached two inches in diameter after 110 years growth. Under released conditions, it would have reached a diameter of 15 inches, producing an estimated volume of 216 board feet. If this tree had been released 25 years earlier, it would have grown to a diameter of 22 inches and produced 440 board feet of timber.



This picture shows the relative values of lumber, ranging from a clear-select grade to No. 4 common grade. As trees grow taller, lower limbs gradually die. The cool, dry climate of this Region is not conducive to self-pruning. Dead limbs produce black knots which fall out when lumber or veneer is cut. This results in a lower grade lumber. By pruning trees at an early age, the lower part of the tree produces clear lumber and high-grade veneer. Pruning is of major importance to the Region's timber values.

Range & Wildlife



Grazing of cattle and sheep continues as a major activity on the 104 ranger districts. Animals graze under paid permits, usually from June 15 to October 15 on the higher National Forest ranges and from May 1 to December 31 at the lower elevations on National Grasslands.

This year a total of 144,491 cattle and 154,060 sheep grazed under paid permits on six million acres of National Forest and National Grassland. More than 2,300 individual grazing permits were issued by the Forest Service. Another 10,596 animals grazed without charge. Most of these animals were horses and mules used by recreation visitors to remote, roadless areas of the Forests.

In recent years the number of sheep grazed on National Forests has declined. This has been mainly because of the economics of the sheep business; owners have had increasing difficulty in securing qualified herders willing to work in the mountains with the sheep. Also, the total acreage suitable for grazing sheep is being reduced as old forest fire burns are reestablished with new timber stands. Some of the sheep owners converted to cattle for those portions of the range suited to cattle grazing.

Livestock grazing in National Forests is important to local economies. On the east side of the Conttinental Divide grazing permits average about 200 head. On the west side, where grazing tends to supplement other earnings, permits are often for 25 head or less.

National Forest grazing aids in stabilizing rural economies—especially in the smaller communities—and serves as a deterrent in the rural-to-urban population shift.

Grasslands. A large measure of the responsibility for management of the ranges of the National Grasslands of the western Dakotas has been assumed by the 685 owners who grazed 57,000 cattle and 8,500 sheep on these public lands under paid permits.

National Grasslands of the western Dakotas are under the administration and management of the Custer National Forest. In the drought years of the 1930's, the Grasslands came into Federal ownership when many residents moved to more productive agricultural lands and the range lands were returned to the primary use of forage production.

Range Analysis. In general, this was a good grass year. Ranchers were, in most cases, able to graze their livestock the entire permitted grazing season. Only in a few cases was it necessary to remove livestock early to avoid damage to the range and a lowering of future forage production.

Currently the Forest Service, in cooperation with permittees, is analyzing all ranges in order to develop the most effective management to insure maximum production and stabilize future carrying capacities. Approximately 65 percent of the grazing allotments have been studied and analyzed.

Out of these range studies rotation and rest-rotation systems of grazing have been developed in some areas and noticeable improvement has been observed in range conditions. In at least one area, better management and rotation grazing have increased forage production so that more livestock can be grazed. Appreciating the importance of good range management, one permittee has built 17 miles of new fence to initiate rotation grazing on his grazing allotment.



Mapping the Beaverhead National Forest's Gravelly Range.

Range Improvements. This year the following improvements were maintained:

3,070 miles of range fence
535 miles of stock trails and feedways
3,650 water improvements
300 other range improvements

New construction included:

260 water developments
277 miles of range fences
18 miles of stock trails and feedways
62 other range improvements.

A total of $118,000 in Accelerated Public Works funds, allocated by the Department of Commerce to economically depressed areas, aided in financing some of the new range improvements.

Sagebrush. To control big sagebrush, 2,4-D was sprayed by helicopters on a total of 11,500 acres. Cost of such spraying has been averaging about $4.25 per acre. Forage on sprayed land has increased as much as 300 percent in recent years.

Ranchers cooperate in sagebrush spraying programs by keeping their livestock off the treated range for two or three years to permit native grasses to become reestablished. Wildlife needs are given special consideration in spraying to control big sagebrush; in sage grouse areas, strips are left unsprayed to insure adequate cover for birds.

Reseeding. Approximately 1,400 acres of range land have been reseeded to desirable forage grasses.

Noxious Weeds. All 16 Forests were active this year in a program designed to control noxious farm weeds on Federal lands. Acreages controlled are not significant measures of accomplishment in this Region. Special attention is given to preventing the spread of noxious weeds by treatment of spot infestations in new locations. Efforts are concentrated in areas where county weed control districts are active on lands adjacent to the National Forests. Forest Rangers are alert for extremely noxious weeds such as Halogeten, Medusahead, wildrye, and Dalmation toadflax.

Education. Emphasis has been given to an education program in improved methods of range management for Forest Service personnel and ranchers grazing animals on National Forest ranges. Substantial progress was made this year in achieving the Region's objective of one demonstration allotment on each Ranger District where grazing is a major activity. Demon-

stration allotments are being established in accessible locations where practical management systems can be maintained, tested and demonstrated.

A self-guided range tour of the Gravelly Range, in the Beaverhead National Forest, will be ready by the summer of 1964. Visitors will follow an illustrated booklet, keyed to tour stop signs along the tour road in this scenic, high mountain range country.

An illustrated brochure with photographs is being prepared to explain methods of range analysis and management planning. The publication is designed for use by ranchers, students and others with responsibilities and interests in range management planning.

The Beaverhead National Forest and the Regional headquarters cooperated with the Forest Service's Washington office in motion picture photography for a Service-wide range analysis and management planning. The publi- in the spring of 1964.

Progress is being made in developing scorecards for judging range conditions and trends. These aid in evaluating land and judging its suitability as range.

Close cooperation with land management agencies and educational institutions becomes more important every year. This year colleges and universities in the area were visited and educators participated in a number of field trips. Joint field trips included representatives of the Bureau of Land Management, the Soil Conservation Service, the Fish and Wildlife Service, Forest Service research, State Fish and Game Departments, Indian Service and other departments and agencies with interests and responsibilities in resource management. The field trips included visits to the Plant Materials Center, Bridger, Montana. Seed samples for the Center were collected.

Colored slide lecture series are proving helpful and effective in a variety of fields of range and wildlife education. Slide series are now available on the Upper Gallatin Elk Herd, Fish Stream Protection, Allotment Analysis, Plants and Their Uses, and Big Game Habitat Analysis.

Sheep on the Gravelly Range, Beaverhead National Forest.





Cattle at Shadehills Reservoir, Custer National Forest.

In close cooperation with the Division of Information and Education, the Region's collection of 4" x 5" black-and-white photographs on range and wildlife has been expanded and updated. These photographs give special attention to "people doing things" with emphasis on the role of the cooperating rancher and private land owner. Range and wildlife dioramas and panel exhibits have been prepared and reconditioned; these are available through the Division of Information and Education.

The Regional Range and Wildlife Digest is proving a convenient and effective means of inservice dissemination of current range and wildlife notes.

Wildlife. Good wildlife management requires close, understanding cooperation of the Forest Service and State Fish and Game Departments. The Forest Service is responsible for protecting and improving the game habitat on National Forests. State Fish and Game Departments establish seasons, set bag limits and are responsible for enforcing regulations.

In an effort to disperse hunter concentrations to areas where increased wildlife harvesting is desired, the Forest Service is cooperating with the states in publishing a series of hunting-fishing maps. This cooperative program is to be enlarged in 1964.

Wildlife is growing in importance in the multiple-use management of the National Forests. Every year more people come to the National Forests to hunt and fish. Non-game forms of wildlife are important to those camping, hiking and sightseeing in the Forests. Studies indicate that out-of-state hunters are increasing in number and these hunters are staying in the Region longer. Hunter success was high this season; fishing was very good. Hunting and fishing continue to grow in importance in the local recreation economy.

Bag of blue grouse taken in Custer National Forest.



Coordination. The growing importance of wildlife in all phases of National Forest multiple-use coordination is illustrated by seeding of timber sale skid trails to clover and planting of trees and shrubs in areas of sparse cover. This has resulted in excellent grouse hunting in many National Forests.

Range management planning is coordinated with wildlife use by allocation of forage use to wildlife where big game share range land with domestic stock.

In cooperation with several states, the Forest Service invested more than $100,000 in direct habitat improvements and related pilot studies in 1963: Improvement of streams and fish ponds, spraying browse to induce sprout growth, controlled burning of browse ranges to encourage new growth, waterfowl habitat development and fencing springs for grouse. Stream bottoms are fenced and stock grazing is managed to minimize or eliminate damage to stream bank cover.

Fishing. Lakes and streams of the Region attract fishermen from throughout the nation. Concerted effort is being made to maintain and improve fishing on these 16 National Forests. Protection of the fish habitat is given special consideration in planning and locating roads.

Game Ranges. Analysis of game range conditions and trends and mapping of herd unit areas is proceeding on schedule. Field men are collecting data on the use of key game ranges; this current information aids in recommending dates for game seasons and harvest goals.

The possibility of collecting wildlife data by photogrammetric methods from stereo pair color photographs, taken at low altitudes from helicopters, is being studied in a cooperative pilot program with the Division of Engineering.

The Upper Gallatin elk herd is being studied in cooperation with the Montana Fish and Game Department and the National Park Service. Cooperative studies of elk summer range and sage grouse protection are also being carried out with the Montana Fish and Game Department.

Research. The Intermountain Forest & Range Experiment Station, Ogden, Utah, provides invaluable assistance in developing new techniques and furnishing technical data for solving difficult wildlife and range management problems. Some research projects are initiated in cooperation with colleges and universities. Research assistance often proves helpful in formulating and reviewing administrative studies by land managers.

A representative range and wildlife research project initiated this year is a study designed to develop a method for estimating range vegetation cover. Range managers need an efficient technique for estimating the area occupied by shrubs, forbs and grasses on a particular grazing allotment or game range.

A number of research projects have been initiated in the field of wildlife. They include a study to determine the amount of browse utilization from twig number estimates and a timber management-wildlife coordination study in western Montana. The timber management-wildlife study is designed to determine what browse will follow various types of slash disposal. Such studies are essential and basic in effective multiple-use management of National Forests.

Cow Elk on the Gallatin National Forest.



A number of research projects have been initiated in the field of wildlife. They include a study to determine the amount of browse utilization from twig number estimates and a timber management-wildlife coordination study in western Montana. The timber management-wildlife study is designed to determine what browse will follow various types of slash disposal. Such studies are essential and basic in effective multiple-use management of National Forests.

A Forest Ranger and local rancher study the range at Hughes Meadows, Kaniksu National Forest.





Gabions on North Fork of Coeur d'Alene River, Coeur d'Alene National Forest.

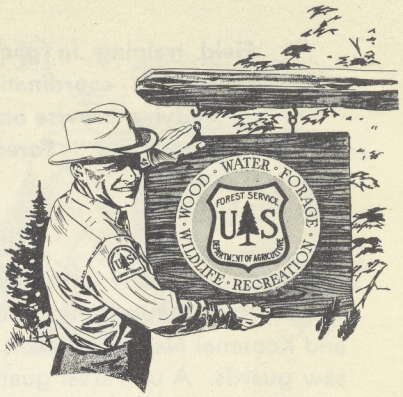
Big Game Harvest. The big game harvest of 1963 was higher than the previous year. Below is a tabulation of the big game harvest in the National Forests of the Northern Region from 1949 through 1962:

Big Game Kill
Forest Service, Northern Region

Year	White-tailed Deer	Mule Deer	Elk	Moose	Goat	Sheep
1949	5,500	12,000	7,300	70	34	....
1950	5,400	12,000	10,000	75	37	....
1951	7,300	17,000	13,000	88	37	....
1952	7,900	20,000	9,800	210	50	....
1953	8,300	23,000	11,000	120	87	24
1954	9,400	27,000	13,000	140	170	53
1955	15,000	36,000	20,000	320	220	35
1956	13,000	38,000	16,000	400	280	50
1957	15,000	41,000	14,000	430	340	55
1958	17,000	45,000	14,900	547	475	78
1959	16,800	44,900	16,000	528	465	103
1960	15,300	47,300	16,928	579	482	130
1961	17,300	52,000	20,900	649	552	112
1962	15,300	51,200	15,800	595	556	120

Kill Increase/Decrease	White-Tailed Deer	Mule Deer	Elk
1957-59 average	16,266	43,800	14,962
1960-62 average	15,966	50,166	17,876
Increase/Decrease	—300	+6,366	+2,914
% Increase/Decrease	—2%	+15%	+19%

Personnel



Personnel Management concerns a great variety of activities including recruiting, placing, classifying, training, appraising, disciplining, safe work performance, special awards, counseling and promotions. They add up to management of people.

Employment peaked at close to 5,700 resulting in a payroll of just under $20,000,000 in Montana ,northern Idaho, eastern Washington and the western Dakotas.

Emphasis in this summary report is on safety and training as they relate to short- and long-term production.

Safety. This year the safety program was tied more directly to production than it has been in the past. Special effort was made to find the right way to do jobs. Safety was a natural product of this effort.

Cliches, such as "Be Safe," "Work Safely," and "Safety First," were de-emphasized with added emphasis given to "We can get more work done for less dollars if we do it right with properly-trained personnel and the right tools." This paid off. There were 30 percent fewer injuries than the previous year. In dollars that represents $100,000 saved; the saving in human suffering was even greater.

The frequency of vehicle accidents was reduced by an amount equivalent to one accident per each million miles driven. Vehicles in the Northern Region are now involved in less than one vehicle accident—other than the very minor ones—every 200,000 miles of driving. Much of this driving is in rough, mountain terrain. This reduced vehicle accident rate means the Region now has only one vehicle accident in the ordinary life of three cars.

Increased Production. Efforts to increase production at a reduced cost are illustrated by a series of contributions that helped reduce by 20 percent the cost of weeding and thinning young stands of timber.

First a big saving was achieved by sustituting power equipment—such as chain saws and brush cutters—for the hand operated axe and bow saw in timber stand improvement and slash reduction. Reductions in the use of the double-bitted axe reduced the chance of injury.



Ranger briefs crew prior to slash burning, Gallatin National Forest.



Field training in game management-reforestation coordination. Foresters are studying browse on Helena National Forest.

But the chain saw introduced problems. Too many people were getting hurt. The Flathead and Kootenai National Forests developed chain saw guards. A universal guard, refined by the Missoula Equipment Development and Testing Center, will soon be available.

A safety apron was developed by the Bitterroot National Forest for chain saw operators. The Equipment Development & Testing Center carried the idea a step further and produced a chap with protective leg and knee pads. This is expected to make important contributions to safe work in 1964.

Workers are being provided protection from flying debris from chain saws and pruning saws by attaching a commercial eye-face shield to the hard hat. Greater use is also being made of instep, shin and knee guards to reduce axe cuts.

Use of silvicides for tree spraying and tree injection materially reduced the cost of thinning overstocked young stands of timber. Silvicides have eliminated the need for more hazardous tools.

Training. Experience has demonstrated that safe equipment alone does not make safe workers. A basic supervision course was prepared and given to trainers this year. They, in turn, will give the course to work supervisors in 1964. With improved crew leadership, more production will be achieved. The safety record will get better.

Safety programs pay dividends now. Once a new method, a new device or a new piece of protective equipment is introduced, results come quickly. But, on the other hand, management training must be infused into an organization at regular intervals. Rarely will benefits be evident the first day after the training. However, in the long run, management training can contribute to a progressive, vigorous organization.

The Region continues to support the one-month School of Administrative Leadership at Montana State University. Eight professors from as many disciplines conduct the course, designed to improve over-all management skills. Government agencies from throughout the United States send employees to the annual course.

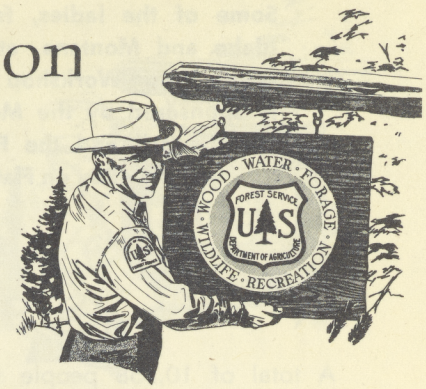
In cooperation with Dean Paul Blomgren and his staff of the Montana State University School of Business, the Forest Service has designed and developed a Middle Management course for Forest Service employees. Approximately 100 Forest Service employees attended the course this year.

A Management Problem-Solving & Decision-Making Course, prepared and presented by Kepner, Tregoe and Associates, is used in this Region's management training program.

New professional employees receive a one-week indoctrination in Basic Management. This entrance course is presented by Forest Service rangers, engineers and business managers.

Formal, functional training sessions are conducted at all levels, but on-the-job training continues to be the cornerstone of all training. Instructor training is provided for the Region's many trainers.

Information & Education



Many people use and are interested in the National Forests. Different groups seek and need different kinds of information about the use and management of these public lands.

Cattlemen, ranchers, timber purchasers and mineral prospectors have special economic interests in the management of National Forest resources. Conservation groups, educators and scientific groups have a less personal but broader interest in these public lands. Fishermen, hunters, hikers, skiers, mountain climbers, outfitters and guides, dude ranchers and local communities are especially interested in the recreational use of the Region's 16 National Forests. Nearby private landowners, people especially interested in wilderness-type recreation and many others concerned with the multiple-use management of these lands require information and education services. These services are provided through a variety of media: Telephone calls personal letters, photographs and movies, maps, folders, information booklets, field trips, workshops and assistance to writers, radio commentators and news services.

Visitor Information Services. In response to a growing volume of recreational visits to the National Forests, special visitor information programs served 1,600,000 visitors at four National Forest locations last year:

Madison River Canyon Earthquake Area
Gallatin National Forest

Beartooth Highway
Custer National Forest

Priest Lake
Kaniksu National Forest

Visitor Center
Aerial Fire Depot - Fire Laboratory
Missoula, Montana

Visitors at the Madison River Canyon Area in the Gallatin National Forest.





Some of the ladies, from Washington, Idaho and Montana, at the 3rd annual Conservation Workshop for women, jointly sponsored by the Montana Conservation Council and the Forest Service, at Yellow Bay on Flathead Lake.

A total of 10,758 people stopped at the new visitor center west of Missoula. This represents a 33 percent increase over 1962. Forest Service VIS personnel extended information and assistance to approximately 83,600 visitors along the Beartooth Highway and at the Rock Creek Vista Point. Evening campfire programs were attended by approximately 2,000 summer visitors at the Cooke City Guard Station in the Custer National Forest.

Since the 1959 earthquake, more than 1,300,000 visitors have come to the Madison River Canyon Earthquake Area. A visitor center is being planned for this popular area.

Forest Service personnel provided visitor information service to more than 15,000 people in the Priest Lake area in the summer of 1963 at evening campfires, slide lectures and self-guided nature trails.

Information. New recreation map-folders were published for the Colville, Clearwater and Coeur d'Alene National Forests. Four new recreation map-folders are scheduled for printing in 1964, as part of a program of revising and updating recreation maps for all the 16 National Forests.

A new ski guide, describing the 16 winter sports areas in the National Forests, was one of 18 information publications printed in 1963. New publications planned for 1964 include a map-folder of the Bob Marshall Wilderness, a guide and map-folder of the Salmon River, self-guided tour booklets, lookout tower folders, a reference guide to the Region's wild, wilderness and primitive areas and a brochure describing range analysis procedures.

More than 2½ million pieces of printed material were distributed during the year. They ranged from Smokey Bear fire prevention material and conservation education kits for teachers, to hunter maps and Forest Service research reports.

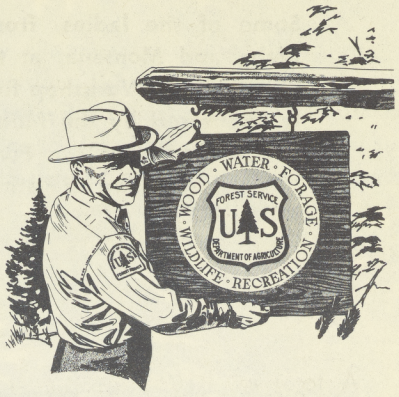
Visuals. During the year 375,752 people viewed educational and training films from the Northern Region's film library—a 59 percent increase over the previous year. The 483 movies in the library were shown to 3,605 different audiences.

A total of 7,294 people saw Forest Service colored slides at 75 showings this year. Fifty-four portable exhibits were shown at 156 professional meetings, conventions, workshops and fairs.

The Region's collection of more than 3,500 black and white photographs provides illustrations for newspaper and magazine writers, educators, free lance writers, book publishers, editors of trade and professional publications throughout the nation, as well as for exhibits, training sessions, displays and publications by the Forest Service.

Education. Conservation material is provided on request to schools, colleges, women's organizations, professional, trade and service organizations. More than 3,000 conservation education teaching kits were sent to teachers throughout the Region. The division also provides material and assistance for several conservation education teacher workshops.

Operation



This division is concerned with and responsible for the Region's over-all management, organization, budgeting, coordination and control functions. Direct service activities include:

procurement
contracting
equipment rentals
leasing
warehousing
property management
space and quarters management
sign construction and coordination
coordinating and programming improvement programs for administrative structures and related facilities

The Forest Service is proud of a well-earned reputation for getting things done. Much of this reputation has developed out of a program and work planning system coordinated with financial management from the "tree roots" of the Ranger Districts through the National Forest and Regional headquarters and on up to the Chief of the Forest Service. At all levels the system is designed to assure the maximum quality and quantity of work by the best-qualified employees where it will do the most good. This year planning was adjusted, by program priorities, to a budget modified to comply with presidential manpower ceiling and utilization mandates.

Accelerated Public Works. Congress established the Accelerated Public Works Program in the U.S. Department of Commerce in September of 1962. APW funds this year financed many jobs in the National Forests of Montana, northern Idaho and eastern Washington.

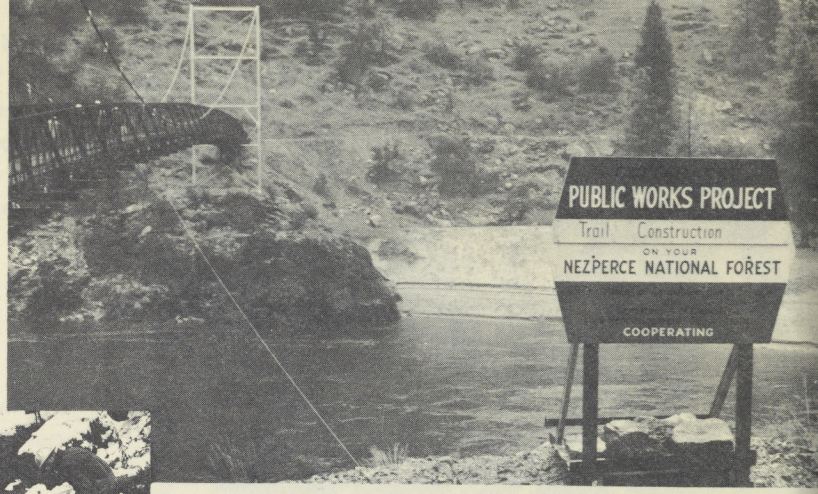
A total of $4,974,000 in APW funds was expended or obligated by 14 National Forests in the Region. These funds were used in 20 eligible counties. Employment reached a peak in January when 1,800 men were working.

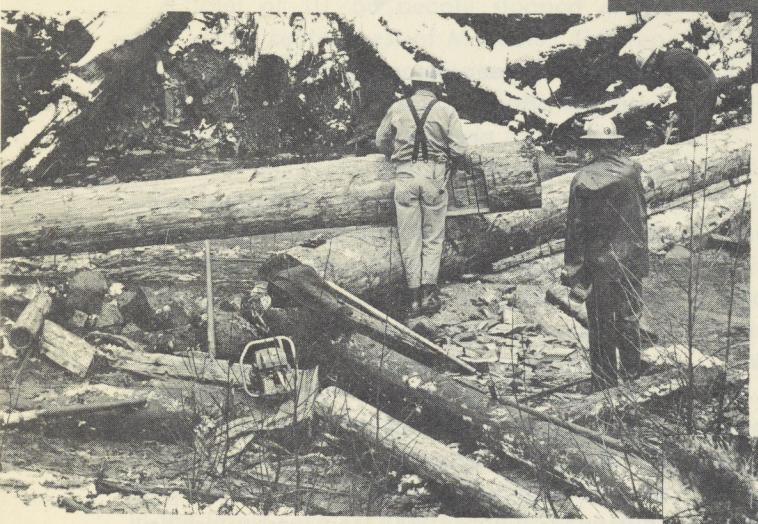
Accelerated Public Works funds financed the completion of many productive and lasting resource development projects. They also permitted the construction and improvement of recreation, administration and transportation facilities in the National Forests. The projects included:



Mastodon Lookout, in the Clearwater National Forest, is one of 23 lookouts built with APW funds.

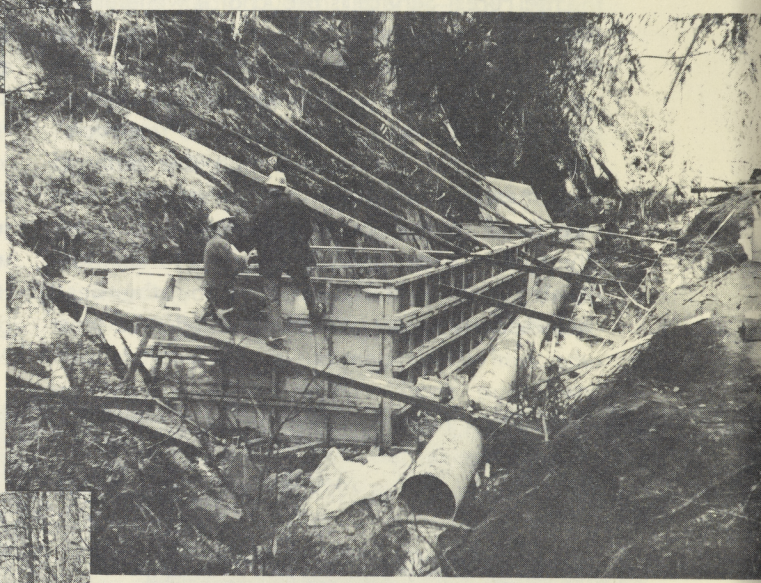
Sixty miles of Forest service trails were built or reconstructed. APW employees reconstructed this old trail on the Salmon River in the Nezperce National Forest and extended the trail into the Selway-Bitterroot Wilderness Area.





Eleven miles of fish habitat improvement and stream stabilization were completed. The picture shows a fish weir on the Yakus Creek in the Clearwater National Forest designed to back water into the culvert to aid steelhead in their annual upstream migration.

Sixty sewer and water system were completed. This picture was taken during the construction of the dam, spillway and settling tank for the water supply system at the Castle Creek Work Center in the Nezperce National Forest..

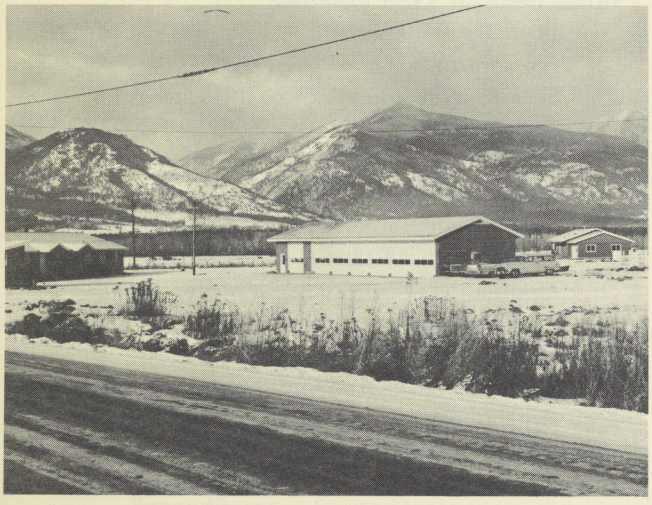




A total of 704 family camp-picnic units were built this year. An additional 32 family units were rehabilitated and twelve boat launching facilities were built. These workmen are building toilet facilities at the Clearwater Gulch picnic area, Pierce Ranger District, Clearwater Nationla Forest.



Timber stand improvement work, under the supervision of experienced professional foresters, was completed on 16,000 acres. This TSI project was on the Flathead National Forest.



Renovation and maintenance work was completed on 133 existing Forest Service buildings. A total of 142 garages, warehouses, ranger offices, residences, barracks, service buildings and cookhouses were built. This picture shows the new garage, gas-oil house, dwelling and office-warehouse at the Stevensville Ranger Station in the Bitterroot National Forest.

Other APW-financed projects completed this year included: reforestation of 596 acres, 203 miles of road construction, 186 miles of range fencing and 117 other range improvements, erosion control on 187 acres and 298 acres of road stabilization. Fifty-nine of the larger projects, involving $1,574,322, were accomplished by contracts with local firms.

Administrative Services, Improvements. During the year the Region purchased $8,560,000 worth of equipment, contracted services and supplies. Of this total, $6,664,043 was under contract with private business organizations. The remaining $1,895,957 was spent for supplies, equipment, services, materials and for construction and equipment rentals. A total of 350 contracts was awarded for improvements, fabrication of equipment and materials, aerial spraying services and for supplies, equipment and materials.

Contracting, warehousing, providing space, real and personal property, and renovating the Region's central fire cache required a total of 24,215 transactions.

In addition to the APW-financed construction and maintenance in the Region, regular appropriations financed: four dwellings, six water, sewer and electrical systems, and seven miscellaneous buildings. Total cost was $389,317. This included the purchase of three administrative sites.

This division's responsibility in the Region's building program includes management of the budget, program coordination, plans to implement the program and follow-up on standards and methods.

Signs. A total of 8,165 signs were manufactured in the Regional sign shop in Missoula. These mark National Forest roads and trails 59%) provide recreation information (25%), mark historical locations, mark entrance points and provide specific information (15%). Two per cent were miscellaneous signs. Total cost of this sign production was $85,685.

Directional, name-place and informational signs are being modernized and standardized. Old hanging type signs are being replaced; rustic ground-supports are now being used for the larger signs. The Region has adopted the Forest Service "Family of Signs" to improve identification.

Organization. Emphasis continues on manpower utilization, effective use of personnel and curtailment of low priority services under established personnel ceilings. This emphasis is in response to the presidential mandate; it has been vigorously implemented throughout the Forest Service.

The most important organizational action this year involved the National Forest Business Management Organization. This is proving a significant step in the rapid upgrading of business management in the Forest Service.

Management Improvement. Planning is proceeding for the Region to convert payroll and personnel management to the U.S. Department of Agriculture automatic data processing center. The conversion is set for 1964.

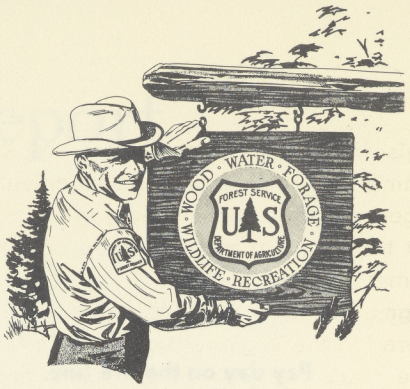
Valuable suggestions were received from many Forest Service employees for improvement in management and operations. These suggestions resulted in changes that increased safety, reduced costs, and contributed to a more efficient operation. Of the 156 employee suggestions, 59 were placed in use; 39 of the suggestions brought cash awards to those submitting the suggestion.

Workload and cost studies of major functional fields in 1963 included:

business management
fire control
Service-wide volume of business revision
engineering
right-of-way
timber management costs
ranger district intensive management
ranger district financial management
automation (electronic data processing)
mess management (cost)
horses and mules (cost/use)

Inspections. General Integrating and General Functional Inspections are the most important and effective means of evaluating programs in the Region's 16 National Forests. Five Integrating Inspections and 35 Functional Inspections were completed this year. Close follow-up is proceeding on the recommendations made by the Chief of the Forest Service in his Integrating Inspection report of 1962. In addition to the management control benefits of these inspection procedures, they contribute to training and a free interchange of ideas.

Fiscal



National Forest operations are financed by federal appropriations. Congressional appropriations are based on substantiated budgets approved by the Secretary of Agriculture and the Bureau of Budget.

The Forest Service is permitted to accept cooperative deposits from timber operators and others for specific projects, such as funds for erosion control work following cutting on a timber sale, reforestation, etc. Under the Kuntson-Vandenberg Act, a portion of the National Forest timber sale receipts are withheld in a trust fund to cover the cost of planting a replacement timber crop, timber stand improvement and other reforestation measures. K-V funds are used mostly for investment expenditures, designed to insure the future productivity of the National Forests.

Expenditures. Expenditures for the construction and acquisition of physical improvements—roads and trails, recreation areas, telephone lines, administrative buildings, fire structures and other similar improvements—are classified as "Investment" expenditures. "Operating" expenditures include those funds used for management and protection of the National Forest resources, maintenance of roads, trails and other improvements, equipment operation and the purchase of hand tools, supplies and services related to maintenance.

Receipts. National Forest receipts are derived largely from the sale of timber, grazing fees and other special use fee payments. Twenty-five percent of the receipts from National Forest Lands are returned to the counties on the basis of the National Forest acreage within the counties. These funds are distributed to local counties through the Treasurer of the United States and the state treasurers. Federal law requires that counties use these funds for schools and roads; allocation for schools and roads are determined by state law. Knutson-Vandenberg Act cooperative funds are used to purchase goods and services in National Forest counties and thus contribute to the stability of local economies.

In the 36 years from July 1, 1927 to June 30, 1963, National Forests of the Northern Region have returned $103,246,000 to the Treasurer of the U.S. from timber sales, grazing fees and other special use fees. Local counties received 25 percent of these National Forest earnings.

Northern Region receipts in fiscal year 1963 totaled $8,192,475.80. This is 47.9 percent of the Region's $17,093,549.80 operating cost during the year. The latter figure does not include the direct costs of fighting forest fires. Receipts in fiscal year 1963 were up $656,548.52 (8.7%) over the previous year.

Data Processing. Automatic data processing equipment has been used in this division for a number of years. A modern electronic computer facilitates payrolling, processing payments to vendors, provides timber management and engineering computations, and makes statistical data available on the many phases of Northern Region work.

Statistical Appendix. In addition to a condensed statement of Northern Region receipts and expenditures for fiscal year 1962, the statistical appendix of this Review contains a table of returns to counties from 25 percent National Forest Fund, the 10 percent road and trail fund and forest highway allocation. Also, the appendix contains a tabulation of calendar year 1963 receipts from the National Grasslands, administered as part of the Custer National Forest.

Pay day on the fire line.



Statistical Report

TIMBER SOLD

C. Y. 1963

SAWLOGS	M. ft. b.m.
White pine	147,557.73
Ponderosa pine	111,769.16
Lodgepole pine	146,097.01
Douglas-fir	380,918.47
Larch	269,373.46
True firs	171,249.20
Hemlock	43,622.03
Spruce	129,979.38
Cedar	54,963.27
Whitebark pine	1,402.50
Softwood	948.38
Older dead	2,477.55
Total sawlogs	1,460,358.14
PULPWOOD	
White pine	10.00
Ponderosa pine	10.00
Lodgepole pine	13,420.16
Douglas-fir	137.60
Larch	10.00
True firs	3,229.24
Hemlock	7,147.50
Spruce	3,611.01
Cedar	121.80
Softwood	230.00
Total pulpwood	27,927.31
PRODUCTS	
Poles	17,507.30
Posts	7,696.02
Piling	.80
Ties	2.50
Mine props	2.22
Fuelwood	1,818.95
Misc. products	5,137.43
Total products	32,165.22
Total sold, R-1	1,520,450.67

TIMBER CUT

C. Y. 1963

SAWLOGS	M. ft. b.m.
White Pine	148,033.17
Ponderosa Pine	117,105.07
Lodgepole Pine	90,843.21
Douglas-fir	330,991.85
Larch	294,297.42
True firs	159,947.86
Hemlock	48,535.24
Spruce	138,982.79
Cedar	48,779.71
Whitebark pine	445.38
Softwood	1,274.18
Northern black cottonwood	.87
Older dead	5,230.75
Total Sawlogs	1,384,467.50
PULPWOOD	
White Pine	96.69
Ponderosa pine	57.38
Lodgepole pine	16,691.97
Douglas-fir	504.87
Larch	249.72
True firs	3,814.28
Hemlock	5,133.43
Spruce	7,243.38
Cedar	472.52
Softwood	100.00
Total pulpwood	34,364.24
PRODUCTS	
Poles	13,319.72
Posts	6,388.42
Piling	15.08
Ties	2.50
Mine props	9.22
Fuelwood	2,007.70
Misc. products	1,787.99
Total products	23,530.63
Total cut, R-1	1,442,362.37

CONDENSED STATEMENT RECEIPTS AND EXPENDITURES
NATIONAL FOREST PROGRAMS - FISCAL YEAR 1963

	RECEIPTS		EXPENDITURES	
NATIONAL FOREST PROT. — LU PROJECTS			Operating	Investment
Protection and Management			11,006,806.59	2,270,386.39
Fighting Forest Fires			1,954,436.16	
Insect and Disease Control			2,363,696.93	6,317.45
Access Roads			6,531.59	1,419,016.54
Road & Trail System, Constr. and Maint.			3,111,719.97	5,584,473.99
Flood Prevention & Watershed Protection			10,575.56	
Public Works Acceleration			466,414.90	3,045,209.28
Coop. Deposits (incl. timber deposits for stand impr.)				
Operating	175,140.03		127,804.26	
Investment	2,831,772.40	3,006,912.43		2,384,839.54
NATIONAL FOREST & LU AREA RECEIPTS				
National Forest Fund		7,182,766.95		
National Grasslands		893,604.03		
Other Misc. Receipts		115,104.82		
Totals		11,198,388.23*	19,047,985.96	14,710,243.19

*This does not include amounts collected by Federal Power Commission for power licenses and by Dept. of Interior for mineral leases on National Forest lands.

FOREST SERVICE - REGION ONE

CUSTER NATIONAL FOREST

PAYMENTS MADE TO COUNTIES FROM NET REVENUES OF NATIONAL GRASSLANDS

CALENDAR YEAR 1963

States and Projects	Net Revenues	25% of Net Revenues	Total Acreage by Project	Counties	Acreage by Counties	Per cent of Project	Payments Due Counties	Amount Per Acre Return (in cents)
North Dakota								
Dunn (3208)	$ 1,277.50	$ 319.38	2,554	Dunn	2,554*	*	$ 319.38	.125
Cedar River (3210)	1,305.51	326.38	6,717	Grant	480	7.15	23.32	.048
				Sioux	6,237	92.85	303.06	.048
Little Missouri (3212)	830,287.83	207,571.96	1,026,504	Billings	289,567	28.21	58,620.81	.202
				Golden Valley	96,338	9.39	19,472.02	.202
				McKenzie	501,926	48.90	101,450.27	.202
				Slope	138,673	13.50	28,028.86	.202
TOTALS	$832,870.84	$208,217.72	1,035,775		1,035,775		$208,217.72	
South Dakota								
Little Moreau (3903)	538.00	134.50	3,304	Dewey	3,304	100.00	134.50	.040
Grand River (3907)	27,221.12	6,805.28	155,426	Carson	31,101	20.01	1,361.75	.043
				Perkins	124,207	79.91	5,438.36	.043
				Ziebach	118	.08	5.17	.043
TOTALS	$ 27,759.12	$ 6,939.78	158,730		158,730		6,939.78	
REGION TOTAL	$860,629.96	$215,157.50	1,194,505		1,194,505		$215,157.50	

*Mineral rights only in Dunn County; mineral and surface rights in all other counties.

RETURNS TO LOCAL GOVERNMENTS
from
NORTHERN REGION NATIONAL FORESTS
Fircal Year 1963 (July 1, 1962-June 30, 1963)

STATE	25% Direct Return to Counties (1)	10% Roads and Trails (2)	Forest Highway Allotments (3)	TOTAL	Total Acres in National Forest Land	Cents Per Acre	Acres of Commercial National Forest Land	Cents Per Acre	TOTAL RECEIPTS NATIONAL FORESTS FUND
Montana	$ 933,271	$373,308	$1,900,000	$3,206,579	16,635,605	19.3	10,720,900	29.9	$3,733,084
Idaho	663,837	265,535	700,000	1,629,372	6,865,891	23.7	4,722,600	34.5	2,655,348
Washington	196,823	78,729		275,552	1,215,977	22.7	1,092,100	25.2	787,292
South Dakota	1,761	704		2,465	73,707	3.3	11,700	21.1	7,043
TOTAL	$1,795,692	$718,276	$2,600,000	$5,113,968	24,791,180	20.6	16,547,300	30.9	$7,182,767
CENTS PER ACRE RETURN TO LOCAL GOVERNMENT FROM ALL NATIONAL FOREST LAND									
Montana	5.6	2.3	11.4	18.3	16,635,605				
Idaho	9.7	3.8	10.2	23.7	6,865,891				
Washington	16.2	6.5		22.7	1,215,977				
South Dakota	2.4	.9		3.3	73,707				
Weighted average total	7.2	2.9	10.5	20.6	24,791,180				
CENTS PER ACRE RETURN TO LOCAL GOVERNMENT FROM NONRESERVED COMMERCIAL NATIONAL FOREST LAND									
Montana	8.7	3.5	17.7	29.9			10,720,900		
Idaho	14.1	5.6	14.8	34.5			4,722,600		
Washington	18.0	7.2		25.2			1,092,100		
South Dakota	15.1	6.0		21.1			11,700		
Weighted average total	10.9	4.3	15.7	30.9			16,547,300		

(1) By law, 25 percent of the annual gross receipts of the National Forests is returned th rough the states to the road and school funds of the counties in which the National Forests are located.

(2) Ten percent of the National Forest receipts is made available by congressional ap propriation each year for the construction and maintenance of Forest Service roads and trails.

(3) Forest Highway Funds are appropriated annually by Congress for distribution to the states containing National Forests. They do not require matching by state construction funds. Their use is programed by joint agreement of the State Highway Department, Bureau of Public Roads, and the Forest Service.



NORTHERN REGION

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE